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ACUTE AND CHRONIC BACILLARY DYSENTERY AND CHRONIC ULCERATIVE COLITIS

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During the past two decades there has occurred an increasing interest in the subject of the infectious diarrheas, particularly bacillary dysentery and chronic ulcerative colitis. It is our purpose to present the newer and poorly understood features of acute bacillary dysentery and to establish a relationship between it and chronic ulcerative colitis.

RISING INCIDENCE OF ACUTE BACILLARY DYSENTERY

In 1933, we directed attention to the inadequacy of available data on the prevalence of acute bacillary dysentery in the United States.[1] In 15 states it was not even a reportable disease. This condition was subsequently corrected through the cooperation of public health officials. We also pointed out new and atypical clinical forms of the disease and described a characteristic three stage progression of intestinal pathological change readily demonstrable at sigmoidoscopy. Due largely to the work of Boyd,[2] a more accurate classification of dysentery strains by serologic methods became available. There followed a rapidly rising incidence of reported acute bacillary dysentery that was assumed by many to be due largely to better recognition and reporting of the disease. Two decades have passed, and we must now revert to our original contention that there is an actual rising incidence of the disease. This is shown clearly in the accompanying graph (page 1070). It will be noted that, after reaching a peak of 38,313 cases in 1944, there was a gradual recession to approximately 17,000 cases in 1947 that was followed by a sharp secondary rise to 32,425 cases in 1951, the last year of available public health figures. It must also be remembered that the reported incidence of acute bacillary dysentery is but a fraction of the actual incidence because of failure to recognize the disease, inadequate study, and poor reporting. We wish to again call attention to the parallel rise in the unclassified dysenteries. The increase can no longer be attributed to better clinical recognition and reporting because these have been more or less stabilized for the past decade. Moreover, there appears to be no relationship to returning Korean War veterans. Our purpose in stressing the rising incidence of acute bacillary dysentery is to correlate it with other data indicating a probable relationship to chronic ulcerative colitis. The latter also appears to be on the increase, but precise information as to its numerical prevalence and to the existence of chronic ulcerative colitis in endemic or epidemic dysenteric areas is not available. It will remain so until our improvement in the diagnosis of chronic ulcerative colitis parallels that of other well-defined disease entities. Sole dependence on roentgenographic findings will lead to failure since defects of mucosal pattern, luminal stenosis, and rigid "stove pipe" colons are relatively late manifestations. Sigmoidoscopic findings, on the other hand, are manifested early in the disease. Edema and hyperemia of the mucosa, superficial erosions, and, above all, a purulent cellular structure of the aspirated mucosal exudate are early signs of chronic ulcerative colitis in a patient with long-standing bloody diarrhea.

PITFALLS IN CLINICAL DIAGNOSIS

The typical case of acute bacillary dysentery is readily diagnosed by the observant family physician and confirmed by culture of the intestinal discharges. Bloody diarrhea, abdominal cramps, and fever are unmistakable. But for every patient with these classic symptoms and signs, there are many more without them. This is certainly true of the disease as it has been encountered in the United States since 1932. During our studies of the Jersey City epidemic at the Medical Center in 1934,[3] sigmoidoscopic examination revealed the characteristic three stage progression of intestinal lesions, namely diffuse hyperemia of the mucosa with punctate follicular hyperplasia, punctate follicular necrosis, and discrete or confluent ulceration on the first, second, and third days, respectively, of the disease. Infants might die during stage

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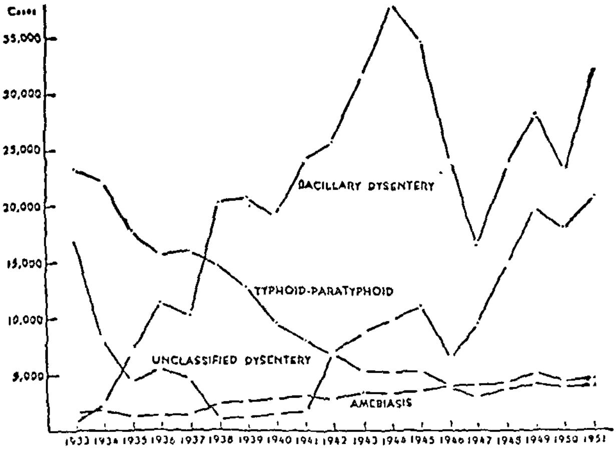
[1] Felsen, J.: The Problem of Bacillary Dysentery, Am. J. Trop. Med. **19**: 333 (July) 1939.

[2] Boyd, J. S. K.: A Review of Dysentery Bacilli of India, with Special Reference to Certain Recently Described Types, J. Roy. Army M. Corps **66**: 1 (Jan.) 1936.

[3] Felsen, J.; Rundlett, E. V.; Sullivan, J., and Gorenberg, H.: Atypical Flexner Dysentery, J. A. M. A. **103**: 1055 (Oct. 6) 1934.

1 or 2, while some adults had few or no symptoms even in stage 3. This was determined by examining all contacts regardless of the presence or absence of symptoms. *Cultures proved positive for Shigella dysenteriae, and* there was a rising serologic titer, positive phage, and purulent cellular structure of the mucosal exudate. Seven atypical clinical forms were classified as the afebrile, asymptomatic, constipated, meningitic, pneumonic, appendicular, and agranulocytoid. The potential hazards *offered by these previously unrecognized cases were* apparent. They were sometimes more responsible for spread of the disease than patients who were acutely ill and confined to bed. The lesson to be learned from these observations was that, in dealing with acute bacillary dysentery, every contact must be cultured if the disease is to be effectively controlled. Periodic mass surveys in endemic or epidemic areas would be a progressive public health measure. It was also evident that, clinically, acute bacillary dysentery should be regarded as a systemic disease with focal intestinal manifestations, since the extraenteric symptoms and signs often overshadowed the *diarrhea, especially at the onset and most infective stage* of the disease.



Incidence of bacillary dysentery, typhoid and paratyphoid, unclassified dysentery, and amebiasis from 1933 to 1951. Note concomitant rise in unclassified and bacillary dysentery in 1949.

The sigmoidoscopic picture as described above is diagnostic of acute bacillary dysentery. The failure to institute such an examination is generally due to fear of perforating the bowel, lack of familiarity with *interpretation of the pathological changes of the intestine, or* unwillingness on the part of the patient. These are not serious drawbacks, and they can readily be overcome by appropriate educational measures. We teach our residents to handle the sigmoidoscope as an artist does his *brush, to remove the obturator as soon as the instrument* is in the ampulla, then to proceed by direct vision, and, if he must use force, to do so only in removing the scope—a purely facetious statement for psychological effect. The danger of perforating the bowel is negligible in the hands of an experienced examiner. *If a one-half inch (1.27 cm.) sigmoidoscope, a ×10 magnifying telescope,* and a heavy-walled capillary pipette for aspiration of the mucosal exudate are used, the entire procedure lasts only a few minutes. The mucosa and lymph nodes are examined for the characteristic changes. A few drops *of the mucosal exudate are then aspirated,* and part is used for culture by *spraying on a quadrant culture dish* containing four differential mediums.[4] The *other part is* examined on a slide in order to determine the characteristic purulent cellular structure.

INADEQUACY OF BACTERIOLOGICAL STUDIES

Bacteriological studies are usually inadequate because of procrastination on the part of the physician or patient. When a local laboratory is not readily available, the state public health laboratory is no further than the mailbox. The feces *may be mixed with formaldehyde to a concentration of 1:10,000, or with 30% glycerin. Specimens* may be shipped air mail. Such studies are important not only because they protect the community but also because they furnish accurate data for clarifying our under*standing of the chronic forms of the disease. It may be in one of these very patients in whom chronic ulcerative* colitis or ileitis subsequently develops within a year. Cultures for Sh. dysenteriae usually become negative after 7 to 10 days in the average case of acute bacillary dysentery so that, if the chronic phase has developed, *bacteriological search for specific primary enteric pathogens* is futile in most instances. This explains the absence of positive cultures for Sh. dysenteriae in the majority of cases of chronic ulcerative colitis. Convalescent carriers are sometimes encountered, but the carrier state usually *does not last more than a month, very rarely for a year.* It is more important to establish the initial diagnosis and culture with adequate follow-up than to rely solely on recovery of the dysentery organism a year later when chronic ulcerative colitis is present.

INTESTINAL LESIONS

The stereotyped textbook picture of the intestinal lesions presented to medical students three decades ago is rarely seen in the United States. For *every patient in whom the colon is almost completely* denuded of mucosa with massive hemorrhage, there are perhaps 20 in whom the lesser lesions described above are found. This change in the concept of the pathological changes in acute bacillary dysentery may possibly *be due to lessened* susceptibility of the host or lowered virulence of the organism. We suspect, however, that the three stage progression of disease process also occurred prior to 1933 but that it was never observed due to the omission *of sigmoidoscopic examinations in the living* patient or perfunctory study of the bowel at necropsy. We teach our residents to examine opened intestines at necropsy carefully by reflected and transmitted light from a light box. This simple method has yielded a wealth of interesting data previously overlooked.

IMPORTANCE OF FOLLOW-UP STUDIES

Every patient with infectious diarrhea should be reexamined by sigmoidoscope at three month intervals for one year. Fortunately, *in most cases intestinal lesions are easily discernible in the distal colon.* Rare skip or proximal lesions can usually be detected by roentgenography. The chronic or persistent intestinal changes may be present even in patients who have few complaints, such as occasional diarrheal movements specked with blood often erroneously attributed to hemorrhoids. Intestinal bleeding (bright red blood) is an important sign in many serious conditions of the digestive tract, and even in the presence of hemorrhoids no conclusions should be drawn without visual inspection of the bowel above.

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[4] Felsen, J.: A Divided Culture Plate, Am. J. Clin. Path. 19:289 (March) 1949.

ANTIBIOTICS VERSUS SULFONAMIDES

Neither antibiotics nor sulfonamides are of prophylactic value in bacillary dysentery, and they should not be used for this purpose since they tend to favor the development of mutants or resistant strains and adversely influence vitamin synthesis if used over a long period of time. For curative therapy, a combination of sulfathiazole or sulfadiazine and succinylsulfathiazole (Sulfasuxidine) or phthalysulfathiazole (Sulfathalidine) is effective. The table shows the range of usefulness of the antibiotics. Oxytetracycline (Terramycin), chloramphenicol (Chloromycetin), and possibly chlortetracycline (aureomycin) appear to be most effective for the strains usually encountered. If uncertainty exists, in vitro sensitivity tests should be carried out against the particular dysentery organism involved. Recent studies in Korea indicate the failure of sulfadiazine in Flexner infections, chiefly 3 and 4.[5] The antibiotics have proved effective in sulfonamide-resistant cases of acute bacillary dysentery, but we are also beginning to encounter antibiotic-resistant strains of B. dysenteriae. This merely reflects a normal biological response on the part of the dysentery organism. The same phenomenon has occurred in staphylococcal infections due to the indiscriminate and prolonged use of penicillin.[6] Allergic manifestations may occur after the use of either sulfonamides or antibiotics, and renal complications may follow the use of the absorbable sulfonamides. Chloramphenicol is still a vauable antibiotic in intestinal infections caused by gram-negative organisms in spite of rare instances of granulocytopenia or agranulocytosis produced by it.

CHRONIC BACILLARY DYSENTERY

Patients who do not recover from an attack of acute bacillary dysentery usually exhibit intestinal lesions that are considered characteristic of chronic ulcerative colitis. Adequate interval observations have revealed that these merely represent a perpetuation of the lesions produced during the acute specific phase with a superimposed nonspecific infection. This subject is still controversial, although there appears to be a general agreement that some, but not all, cases are due to bacillary dysentery. Many other theories as to etiology[7] have been offered; this is due at least in part to the fact that positive cultures or a definite history of acute bacillary dysentery are obtained only in a limited number of cases of chronic ulcerative colitis. The relative paucity of carrier states in bacillary dysentery and the many cases undiagnosed because of the occurrence of atypical clinical forms should adequately explain the failures to associate chronic ulcerative colitis with a previous attack of acute bacillary dysentery. Under carefully controlled conditions, such as in the Jersey City epidemic of 1934,[8] there was not the slighest doubt of the antecedent history or diagnosis. Of an original group of 210 patients hospitalized at the Medical Center, follow-up studies of 122 showed that in 10.7% chronic ulcerative colitis or distal ileitis developed at the end of 9 to 12 months. These findings have been corroborated elsewhere by other investigators.[9] The amazing fact is that, in the light of such impressive data, we have failed to adequately control acute bacillary dysentery. Such action would be fully warranted even if only a small proportion of the cases of chronic ulcerative colitis were due to bacillary dysentery. It would seem wise to institute a rigid campaign to control bacillary dysentery in the same manner as typhoid and to note the effect of such control on the incidence of chronic ulcerative colitis or ileitis. This should give rise to serious reflection. Pathologically, the intestinal lesion in acute bacillary dysentery and chronic ulcerative colitis involve identical areas—all or part of the small or large intestine. In both there is a predilection for the distal ileum and the proximal and distal colon. The ileocecal valve is no bar to extension of the infection, and our original contention that ileal involvement occurs in chronic ulcerative colitis has been confirmed. The presence of granulomatous giant cells in ileitis does not nullify the common identity of the histopathological changes in both diseases.

Sensitivity of Shigellae to Antibiotics in Vitro*

Antibiotic	Sensitivity of Strains
Penicillin	None
Chlortetracycline (aureomycin)	Moderate
Chloramphenicol (Chloromycetin)	High
Oxytetracycline (Terramycin)	High
Streptomycin	Relatively low
Dihydrostreptomycin	Relatively low
Bacitracin	None

* 12 strains tested by disk method: Shigella dysenteriae, ambigua, 8 types of flexneri, sonnei, and aklalescens.

In a recent review of 1,072 of our cases of chronic ulcerative colitis and ileitis (chronic ulcerative colitis, 994 cases; ileitis, 31 cases; and combined form, 47 cases), positive cultures for Sh. dysenteriae were found in 75 (7%) as compared with 0.08% in 6,000 controls, including monthly repeat cultures on the same persons for many years (food handlers and nursing personnel) at the Bronx Hospital. A definite epidemiological history (knowledge of the disease having started during an outbreak in an endemic or epidemic dysenteric area) was obtained in 236 and multiple familial contact infections occurred in 24.

Beside the question of etiology, there are other problems of recent interest in chronic ulcerative colitis that will be discussed briefly. These concern pregnancy, carcinoma, and the use of newer therapeutic agents.

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5. Zimmerman, L. R.; Cooper, M., and Graber, C. D.: Bacteriologic Studies in Epidemic of Bacillary Dysentery in Korea, Am. J. Clin. Path. **22**: 549 (June) 1952.
6. Felsen, J., and others: Staphylococcic Infections in Hospital Nurseries and Pediatric Wards, A. M. A. Am. J. Dis Child. **81**: 534 (April) 1951.
7. Felsen, J.: Bacillary Dysentery, Colitis and Enteritis, Philadelphia, W. B. Saunders Company, 1945.
8. Felsen, J., and Gorenberg, H.: Chronic Dysentery, Distal Ileitis and Ulcerative Colitis: Follow-Up of Jersey City Epidemic of Bacillary Dysentery, Am. J. M. Sc. **192**: 553 (Oct.) 1936.
9. Stewart, G. T.: Post-Dysenteric Colitis, Brit. M. J. **1**: 405 (Feb. 18) 1950. Felsen.[7]

PREGNANCY

Pregnancy generally has a salutory effect on chronic ulcerative colitis.[10] Rarely is termination of pregnancy indicated. Our own experience covers 117 pregnancies in 72 patients. During 59 of these pregnancies, the patients felt well symptomatically, and this state was reflected by improved or absent sigmoidoscopic findings. In 39 pregnancies, although the patient was not well, the disease had no significant effects on the pregnancy. In five patients, the disease started during pregnancy; these are included in the group of 39. The disease in these five was no worse than in the other 67 patients in whom it antedated the pregnancy. In eight pregnancies, colitis was quiescent during pregnancy but was definitely worse after delivery. In 11 instances, the data were incomplete, and no conclusions referable to the pregnancy or ulcerative colitis could be drawn. Prematurity occurred in one instance and was complicated by retrolental fibroplasia.

CARCINOMA

Carcinoma[11] occurred in 7 (0.65%) of 1,072 of our patients with chronic ulcerative colitis, but there was no evidence that there was any relationship between the two diseases. Our data include patients of varying ages and follow-up periods. Control studies of similar groups in 12,025 general admissions without ulcerative colitis at the Bronx Hospital during 1946 and 1947 revealed an incidence of intestinal carcinoma of 0.8%. Pseudopolyposis in our opinion is but one stage in the inflammatory process in chronic ulcerative colitis. It consists of bits of pinched off mucosa from which regeneration of epithelium occurs to cover denuded areas. Pseudopolyposis frequently occurs at one stage or another in chronic ulcerative colitis and is not to be confused with adenomatous polyps that are neoplastic and exhibit a definite tendency to malignancy.

TREATMENT

The sulfonamides, antibiotics, cortisone, and corticotropin (ACTH) are palliative, not curative, therapeutic agents in chronic ulcerative colitis. Their prolonged use is to be deplored. In the case of the antibiotics and sulfonamides, they lead to the development of resistant strains and may mask dangerous complications.

Surgery is indicated in a small percentage of patients. Any decision must be individualized for each patient, and the surgical hazards, possible failures, and psychological effects must be kept in mind. Ileostomy does not cure ulcerative colitis or stop massive hemorrhage from the colon. While the mortality of this procedure alone has been reduced from about 25 to 4%, very troublesome complications, such as retraction of the stoma, prolapse, and perforation, do occur. The present tendency to do an ileostomy and total colectomy including removal of the rectosigmoid segment in one stage is radical but has a surprisingly low mortality in selected cases.

Friedlander, while at the Ft. Hamilton Veterans Administration Hospital, performed 23 primary resections with two postoperative fatalities (8%). Ripstein, at Maimonides Hospital, did 122 such procedures with five postoperative deaths (4.1%). Dennis, at New York State University, carried out 53 primary resections with one postoperative death (1.9%). Cave prefers the two stage procedure with eventual removal of the distal segment. It is of interest that, in a series of 156 resections, Cave encountered 14 instances (9%) of carcinoma developing in the distal segment. Garlock carries out primary resections only in selected cases in the ordinary chronic form of the disease but not at all in acute cases with massive hemorrhage. Patients with the latter stand the one stage procedure poorly. The procedure takes 4 to 5 hours in experienced hands and must be accompanied by flawless preoperative, operative, and postoperative care, particularly with regard to fluid and electrolyte balance. Operative mortality figures depend largely on the severity of the disease and suitability of the patient for radical surgery.

Most surgeons prefer the two or three stage procedure with removal of the distal segment in all cases. It is generally conceded by surgeons that chronic ulcerative colitis is primarily a medical problem. Surgery should not be withheld, however, until the condition becomes desperate and the risk correspondingly greater. This is largely a matter of clinical judgment, since some patients make dramatic recoveries after massive hemorrhage without surgery and others die of fulminating chronic ulcerative colitis months after an ileostomy. Surgery should be considered in patients intractable to medical therapy and for complications such as uncontrollable hemorrhage, fistulous tracts, and intestinal obstruction. Perforation is attended by an extremely high surgical mortality and is best treated conservatively. Arthritis, erythema nodosum, and necrotizing skin lesions are not indications for surgery and yield to adequate medical therapy. In our experience, all three have a good prognosis. Periarthritic manifestations occurred in 187 (17.4%), erythema nodosum in 15 (1.4%), and necrotizing skin lesions in 16 (1.5%) of our 1,072 cases.

SUMMARY AND CONCLUSIONS

The rapidly increasing incidence of acute bacillary dysentery in the United States is discussed, and evidence is presented that indicates a relationship between acute bacillary dysentery, chronic ulcerative colitis, and ileitis. The more recent studies in the epidemiology, bacteriology, pathology, and clinical aspects of these diseases indicate the strong probability that the ideal therapy of ulcerative colitis and ileitis is the prevention of acute bacillary dysentery.

Fulton Ave. at 169th St. (56) (Dr. Felsen).

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[10] Bargen, J. A.; Nunez, C. J., and Mussey, R. D.: Pregnancy Associated with Chronic Ulcerative Colitis, Am. J. Obst. & Gynec. **38:** 146 (July) 1939. Felsen, J., and Wolarsky, W.: Chronic Ulcerative Colitis and Pregnancy, ibid. **56:** 751 (Oct.) 1948.

[11] Lynn, D. H.: Relationship of Chronic Lesions to Carcinoma of the Colon—Chronic Ulcerative Colitis: Collective Review, Internat. Abstr. Surg. **81:** 269, 1945, in Surg., Gynec. & Obst. (Oct.) 1945. Bargen, J. A., and Sauer, W. G.: Association of Chronic Ulcerative Colitis and Carcinoma, Clinics **3:** 516 (Oct.) 1944. Machella, T. E.: Problems in Chronic Ulcerative Colitis, Am. J. Med. **13:** 760 (Dec.) 1952. Felsen, J., and Wolarsky, W.: Chronic Ulcerative Colitis and Carcinoma, Arch. Int. Med. **84:** 293 (Aug.) 1949. Otani, S., and Snapper, I.: Incidence of Carcinoma in Chronic Ulcerative Colitis, J. Mt. Sinai Hosp. **19:** 275 (May-June) 1952. Kapel, O.: Medical and Modern Surgical Treatment of Chronic Ulcerative Colitis, Acta med. scandinav. **138:** 328 (Sept.) 1950.

ENDOTRACHEAL ANESTHESIA FOR TONSILLECTOMY AND ADENOIDECTOMY IN CHILDREN

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The use of endotracheal methods of anesthesia has been widely accepted for adults. For children, such methods are standard in many operations, especially those about the head and neck, such as craniotomy and cleft palate. The use of endotracheal anesthesia for tonsillectomy and adenoidectomy in children has gained favor slowly in spite of its being the routine method of general anesthesia for tonsillectomy in adults in many hospitals. We believe that the advantages of endotracheal anesthesia for tonsillectomy and adenoidectomy are as great for children as for adults, if not greater, and in our experience the disadvantages have been encountered no more frequently and they have been of no greater magnitude in children than in adults.

ADVANTAGES

The endotracheal tube serves as an airway that is continuously patent in contrast to the frequent obstruction to respiration that occurs during tonsillectomy when an endotracheal tube is not used. A continuously patent airway makes it possible to avoid the development of cyanosis and hypoxia in all patients. Since inhalation anesthesia can be carried on continuously without danger of interruption, a lighter nonvarying level of anesthesia can be maintained throughout operation and the protective laryngeal reflexes become active rapidly after operation. When the endotracheal tube fills the larynx, the passage of blood and other foreign material from the pharynx into the trachea and bronchi is minimized. The dangers of postoperative abscess of the lung and other pulmonary complications are thereby decreased. Steele and Anderson[1] reported aspiration of blood from the trachea in 96.9% of 129 patients who underwent bronchoscopy after tonsillectomy under general anesthesia without endotracheal tubes. In our patients in whom endotracheal tubes were used, bloody secretion could rarely be aspirated from the trachea since the endotracheal tube was removed at the end of the operation. The tube serves, however, as an easily accessible approach through which excessive tracheal and bronchial secretions may be aspirated. This makes postoperative bronchoscopy rarely necessary.

The greatest advantage of endotracheal anesthesia for tonsillectomy and adenoidectomy is the freedom with which the tongue may be retracted to allow excellent surgical exposure without danger of occlusion of the airway. In all our cases, the tube was passed through the mouth, but, instead of visualization of the field of operation being impaired by the tube, it was improved. It may sound paradoxical to the surgeon who has not tried it, but there is more room for operating when the tube is in the mouth than when it is not used, because freedom of retraction of the tongue is allowed by the presence of the tube. When the surgeon is removing the left tonsil, the tube is held in the right corner of the mouth and descends along the right border of the tongue well away from the site of operation. When the surgeon is ready to remove the right tonsil, the anesthetist can move the end of the endotracheal tube to the left corner of the mouth and the pharyngeal aspirator can be used to move the tube to the left border of the tongue. For adenoidectomy, the tube can be put in whichever side of the mouth suits the surgeon's technique best.

DISADVANTAGES

With the rules and techniques we have followed, the disadvantages of endotracheal anesthesia have been minimal. From 1946 to 1951 inclusive, 1,050 endotracheal intubations were performed at the Mayo Clinic for tonsillectomy or adenoidectomy, or both, in patients less than 15 years of age. The only complication or inconvenience that could be attributed to the intubations was displacement of the endotracheal tube from the larynx; this occurred twice during operation. It is likely that some minor complications of intubation, such as transient sore throat, were not detected because of the nature of the operation, but no major complications, such as laryngeal edema necessitating tracheotomy, occurred. The one possible disadvantage of this type of anesthesia is that the services of a trained anesthetist are required.

GENERAL RULES

Not having experienced any serious complications, we cannot say with certainty what procedures and techniques of intubation should not be used. The following general rules are those that were successfully followed to avoid complications of intubation in our young patients.

Avoid Trauma During Intubation.—Various methods of inducing anesthesia were used, but before intubation all patients received ethyl ether to produce moderate surgical anesthesia so that pharyngeal and laryngeal reflexes were abolished. The vocal cords were gently exposed by holding the laryngoscope lightly between the fingers and avoiding the use of force. Contrary to the opinions of some authors, intubation was found in general to be less difficult in children than in adults. Our insistence on moderately deep anesthesia with a potent agent may account for the difference between our experience and that of others. Once the tube is in place, very light anesthesia was all that was needed, that is, just enough to keep the patient from swallowing or coughing. Frequently after intubation the administration of ether could be discontinued and the

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[1] Steele, C. H., and Anderson, J. R.: Tracheobronchial Aspiration Following Tonsillectomy with General Anesthesia, Arch. Otolaryng. **51:** 699 (May) 1950.

operation completed with the administration of nitrous oxide and an adequate concentration of oxygen. Several methods were used for delivering the anesthetic gases and vapors from the anesthesia machine—circle absorption, nonrebreathing valves of the Leigh type, Ayre's "T" arrangement, and the Flagg ether can. All methods served satisfactorily for the short duration of anesthesia necessary for tonsillectomy and adenoidectomy.

Select Endotracheal Tube of Correct Size.—A tube was selected to fit each patient rather than to conform with age or weight. Before intubation, several sizes and lengths of tube were prepared and made available on a tray. After the vocal cords were exposed, a tube was selected that would fill the larynx loosely. If the slightest resistance was encountered in passing a tube between the cords, that tube was discarded and the next smaller size used. Tables 1 and 2 show the sizes of endotracheal tubes used for the various age and weight groups. It will be seen that in each group a rather wide range of tube sizes was necessary to effect the proper fit of tube to larynx. The distance from the upper incisor teeth to the level of the second costal cartilage was a rough indication of the length of tube needed; however, just as the tip of the tube passed the vocal cords the anesthetist focused his vision on the length of the tube remaining outside the mouth and was able to judge how much farther to advance the tube so that the tip would lie in the middle third of the trachea.

TABLE 1.—*Relation of Tube Size to Age of Child in Endotracheal Anesthesia*

Age, Yr.	Total Cases	Tube Size (French)											
		16	18	20	22	24	26	27	28	29	30	32	33
1- 2	16	..	8	5	2	1	..	..	..	..	..	..	..
2- 3	48	..	10	31	6	1	..	..	..	..	..	..	..
3- 4	118	1	8	42	52	10	4	..	1	..	..	..	..
4- 5	138	..	6	30	47	40	14	1	..	..	..	..	..
5- 6	135	..	..	14	32	47	38	4	..	..	..	..	..
6- 7	166	..	1	12	24	50	62	17	..	..	..	..	..
7- 8	99	..	..	4	15	30	36	14	..	..	..	..	..
8- 9	75	..	1	..	3	24	33	11	3	..	..	..	..
9-10	39	..	..	..	2	9	13	14	1	..	..	..	..
10-11	37	..	..	1	..	9	16	8	3	..	..	..	..
11-12	31	..	..	..	..	6	9	10	4	..	1	1	..
12-13	41	..	..	..	..	3	11	19	5	2	1	..	..
13-14	34	..	..	..	..	3	9	10	9	1	1	..	1
14-15	12	..	..	..	..	..	2	5	3	1	1	..	..
Total	989	1	34	139	183	233	247	113	29	4	4	1	1

TABLE 2.—*Relation of Tube Size to Weight of Child in Endotracheal Anesthesia*

Weight, Lb.	Total Cases	Tube Size (French)											
		16	18	20	22	24	26	27	28	29	30	32	33
20- 29	30	1	9	15	3	1	1	..	..	..	..	..	..
30- 39	151	..	10	36	59	28	16	2	..	..	..	..	..
40- 49	146	..	..	12	30	57	44	3	..	..	..	..	..
50- 59	116	..	..	8	22	27	45	14	..	..	..	..	..
60- 69	57	..	..	1	2	14	23	14	3	..	..	..	..
70- 79	24	..	..	..	1	9	11	3	..	..	..	..	..
80- 89	22	..	..	..	..	3	10	8	1	..	..	..	..
90- 99	14	..	..	..	..	2	3	6	1	1	1	..	..
100-109	10	..	..	..	..	1	3	1	4	1	..	..	..
110-119	15	..	..	..	..	2	1	8	3	..	..	1	..
120 or more	17	..	..	..	..	3	2	5	4	1	1	..	1
Total	602	1	19	72	117	147	159	64	16	3	2	1	1

Avoid Motion of Tube in Larynx.—The head of the patient was held firmly in position by the anesthetist. The tube was moved gently and as infrequently as possible. The short duration of tonsillectomy and the natural position of the head during operation make postintubation complications less likely to occur after tonsillectomy than after longer operations, such as craniotomy, during which much movement of the patient's head is likely to occur. Table 3 shows that the duration of intubation was short in most of our procedures. As soon as the tonsillectomy was completed, the patient was turned to the prone position with the tube in place to allow pharyngeal secretions and blood to drain out by gravity. The tube was removed as soon as the patient began to swallow; this usually occurred within a few minutes after the nitrous oxide anesthesia was stopped. Swallowing and coughing when the tube is in place may cause trauma to the larynx.

Use Only Chemically and Bacteriologically Clean Tubes.—No attempt was made to maintain strict asepsis of endotracheal tubes, but contamination was prevented. After use, the tubes were washed inside and out with soap and water on a brush. They were then boiled 5 minutes or soaked for 30 minutes in an antiseptic solution, such as 1:1,000 solution of benzalkonium (Zephiran) chloride, which does not penetrate the rubber. After being thoroughly rinsed and dried, the tubes were stored in curved plastic containers or sterile towels. Application of a lubricant to the tube before use is not necessary, but, if one is used, it should be sterile and nonirritating and should be applied with a sterile sponge. Care was exercised to prevent the part of the tube that was to pass through the vocal cords from being contaminated by fingers or other unsterile objects before the tube was passed into the trachea.

TABLE 3.—*Duration of Intubation in Endotracheal Anesthesia in Children*

Duration, Min.	Number	%
10-19	7	0.7
20-29	91	8.9
30-39	433	42.3
40-49	314	30.7
50-59	122	11.9
60-69	37	3.6
70-79	10	1.0
80-89	5	0.5
90-99	2	0.2
100 or more	2	0.2
Total	1,023	100
Mean		41.4 min.
Shortest		10.0 min.
Longest		110.0 min.

CONCLUSIONS

The advantages of endotracheal anesthesia for tonsillectomy and adenoidectomy are as great for children as for adults, if not greater. Our experience indicates that the disadvantages of properly executed endotracheal anesthesia for tonsillectomy and adenoidectomy in children have been overemphasized. The endotracheal tube does not in any way obstruct the working space of the surgeon; in fact, visualization is improved.

CORONARY DILATORS AND ANGINA

REAPPRAISAL

Earl N. Silber, M.D.
and
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The physiology of the coronary circulation and the problems of human coronary disease have been under investigation for over 20 years in this department. It is our purpose to reexamine certain aspects that form the basis for the clinical use of coronary vasodilator drugs and to summarize our results with several of the preparations in current use.

Drugs that dilate the coronary vessels are useful. The usefulness of a drug, however, does not lie simply in the demonstration of such dilatation. Of equal importance is the necessity of ascertaining that such drugs do not divert blood from the coronary circuit by a disproportionate dilator action on one or more of the other systemic circuits. Under such circumstances, even a coronary dilator drug may leave the coronary flow unchanged or actually decreased. Secondly, it must always be established that drugs that increase coronary flow do not at the same time increase the metabolism or work of the heart proportionately or disproportionately and thereby nullify the anticipated benefits. Epinephrine (Adrenalin) is one drug that has this dual effect.

The term coronary insufficiency, as an expression of inadequate nourishment of the heart by its circulation, has served a useful purpose. It has created a concept of coronary disease that incorporates physiological factors as well as purely anatomic changes in the vessels. The concept that coronary insufficiency is measured by angina pectoris is fallacious. Such a view takes no cognizance of the fact that angina pectoris is pain and, in this sense, must be analyzed in terms of the physiology of sensation —quite apart from factors having to do with coronary flow.[1] This involves an appreciation of the location and variable level of threshold of pain endings in the heart, the mechanism of referred pain, and the psychology of pain appreciation. To the clinician without such knowledge, the occurrence of angina, unrelated to effort, remains an unexplainable mystery.

Our knowledge of the effect of drugs on the coronary circulation is derived from animal experiments employing various types of isolated hearts, the heart-lung preparation, or the heart beating in situ. In the first two methods, conditions were usually carefully controlled by denervation, cannulation, elimination of contraction, and use of a constant perfusion pressure. In such preparations, changes in flow can result only from alteration in the caliber of the coronary vessels. We have, at one time or another, used each of these preparations. Most of the drugs examined, with the exception of vasopressin (Pitressin), foreign species blood, and potassium in high doses, were found to be coronary vasodilators. Such experiments give little indication of the effect of these drugs on the heart itself or any information of extracardiac effects, such as on blood pressure, pulse rate, and respiration, that may nullify the coronary effect. It should also be borne in mind that drugs that are potent when introduced directly into the circulation of experimental preparations may be completely inert or may possess only a weak or evanescent effect when administered orally.

CLINICAL EVALUATION

Animal experiments show what happens under a specific set of circumstances and serve as a first line of investigation. The effect of these drugs must then be investigated in patients with coronary disease. This brings us to the problem of the clinical evaluation of coronary dilator drugs. It is apparent, from even a casual survey of the literature dealing with the medical treatment of angina, that confusion and conflicting reports surround the use of each of the coronary drugs currently in favor. Such discrepancy in results has as its basis the poorly designed clinical experiment. In this regard, several factors are of major importance; some concern the object of the study, others the investigator.

One must first appreciate the marked variability in the incidence and severity of pain that occurs in patients with angina who are receiving no therapy whatever. These vagaries occur not only under the influence of season, climate, disease in other organ systems, and emotional disturbances but also under apparently unchanging conditions. All of us have at some time observed a decline in attacks of anginal pain with a concomitant rise in the stock market! Because of such variability, the conviction has grown in our department that observations of the effect of coronary dilators should be made for a minimum of one year in a large group of patients. "Small, but carefully observed" groups constitute a type of selection that, in itself, may lead to incorrect conclusions. Second, in choosing patients for study, only those with severe angina should comprise the group. By severe, we refer to patients experiencing a minimum of several attacks of angina a day. Statistically, it may be said of a patient experiencing 1.5 attacks per week before treatment and only 0.6 attack per week while under treatment that he has shown an improvement of "more than 50%." From a realistic standpoint, however, the difference is not significant, yet value is repeatedly attached, in the literature, to drugs on the basis of such meager evidence. On the other hand, one cannot categorically deny the value of a drug in angina when unequivocal benefit is seen in only a small percentage of cases. Furthermore, while severe angina is preferable for testing therapy, it is conceivable that the very severity of the angina may, on occasion, lead to negative results, whereas in milder forms a drug may actually have value.

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This study was aided by grants from the Herbert Mayer Memorial Fund and the Loewenthal Fund.

Read before the Section on Internal Medicine at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

[1] Katz, L. N.: Mechanism of Pain Production in Angina Pectoris, Am. Heart J. **10**: 322, 1935.

It should hardly be necessary to advise, in the study of so highly a subjective ailment as angina, the need for repeated substitution of a placebo for the therapeutic agent. Mention should be made, in this regard, of patients who respond readily to the "ceremony of therapy." These are persons who show improvement regardless of what drug is used. They get better, as far as angina is concerned, even when a placebo is used in the double blind test. The question arises whether their use in tests of drugs that might relieve angina does not decrease the accuracy of a study. It is our present conviction that such patients are not suitable for this type of clinical evaluation and perhaps should be separated in clinical surveys from those who are not so obviously susceptible to the ceremony accompanying therapy.

BIAS

Finally, bias on the part of the investigator, whether it is conscious or unconscious, is a major source of error in such clinical studies. In its more benign form, this expresses itself by an enthusiastic approach on the part of the observer or through suggestion by use of leading questions. Speaking editorially in a recent issue of THE JOURNAL, Beecher [2] pointed out that "Observation is difficult enough when objective signs are under consideration; it is more difficult when subjective responses are examined. Then not only is the patient's sending station of doubtful accuracy but the observers reception of the signals is confused by extraneous noises produced by tradition, by confusion derived from his own more or less acute perception, by his failure to seek patiently for the truth, but most of all by bias."

Our earlier clinical experience with papaverine [3] and visammin (khellin)[4] made us realize in 1949, that in any such study not only the patient but the observer must be unaware of whether active drug or placebo is being administered. This technique has been termed the double blindfold method by others.[5] We have relied solely upon relief of pain as a criterion of the efficacy of a particular agent. We have rejected exercise tolerance or hypoxemia tests because response to these procedures varies spontaneously in patients and requires repeated testing over long control periods to make their use at all worth while. More important, these tests are artificial and are not comparable to the clinical situation that evokes anginal pain. It cannot be shown that there is a high correlation between the ability of a drug to prevent electrocardiographic changes under stress and to prevent anginal pain.

In 1949, employing the double blindfold method, we investigated the effect of dioxyline phosphate (Paveril) on 20 patients with severe angina.[6] In these patients, observed up to six months, no benefit was noted. In our studies of pentaerythritol tetranitrate (Peritrate) in 1950, we found that it exerted no significant benefit.[7] Many of the patients on whom this drug was tested were previously subjects for the study with dioxyline phosphate, and the vagaries of their angina had been well characterized.

In 1950, in the resurvey of visammin, we made the drug available to members of the attending staff at Michael Reese Hospital for use in their private practice. It was understood that, as they reported their results to the dispensing agent of this department, substitution of drug for placebo or placebo for drug would be made without their knowledge. By this technique, it was not possible to demonstrate significant relief of pain in any but an occasional patient.[8] Side-reactions occurred in a third of such patients and necessitated discontinuance of the drug in 50% of the group. When confronted with the data of such blind testing, the staff soon could not be induced to continue the use of visammin.

We have had no reason to change our mind with respect to papaverine from the opinion expressed in the study of Simon and his associates in 1949.[9] Here, as elsewhere procaine amide (Pronestyl) hydrochloride or quinidine have practically supplanted the use of papaverine in abolishing ectopic ventricular rhythms.

At present, we are observing the effect of estrogens on the anginal syndrome. This is not a study of coronary dilators but of agents acting on coronary wall lesions. The ability of these substances to prevent [10] or induce [11] regression of coronary atherosclerosis looms as a highly promising lead. It is much too early to speak of results.

SUMMARY AND CONCLUSIONS

An attempt is made to point out what have continued to appear as important concepts in the treatment of coronary disease. The pitfalls of clinical observations in this area are emphasized. Rigid attention to such sources of error in clinical investigations on angina pectoris would go a long way in resolving the value of the multiple forms of therapy now currently employed and would give security in testing new ones.

2839 Ellis Ave. (16) (Dr. Silber).

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3. Elek, S., and Katz, L. N.: Some Clinical Uses of Papaverine in Heart Disease, J. A. M. A. **120**: 434 (Oct. 10) 1942.

4. Rosenman, R. H., and others: Observations of Clinical Use of Visammin (Khellin), J. A. M. A. **143**: 160 (May 13) 1950.

5. Greiner, T., and others: Method for Evaluation of Effects of Drugs on Cardiac Pain in Patients with Angina of Effort: Study of Khellin (Visammin), Am. J. Med. **9**: 143, 1950. Rinzler, S. H., and others: Effect of Heparin in Effort Angina, ibid. **14**: 438, 1953.

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Sunlight Flavor in Milk.—Exposure of milk to daylight, in conventional glass milk bottles, for periods of about ½ hour or more produces an objectionable flavor commonly known as "sunlight" or "activated." Wavelengths of light in the visible spectrum are responsible for the flavor. Incident to its production, most of the ascorbic acid and a substantial part of the riboflavin in the milk are destroyed. Therefore, sunlight flavor in milk has important economic and nutritional implications. Sulfur-containing compounds are associated with the flavor. . . . The importance of methionine in sunlight flavor production first was suspected when exposure of dilute aqueous solutions of this amino acid was observed to develop a flavor apparently identical with that produced on exposing milk. Further study revealed that the addition of methionine in quantities as little as 4 mg./qt. greatly enhanced production of the flavor in skim milk.—S. Patton and D. V. Josephson, Methionine—Origin of Sunlight Flavor in Milk, *Science,* Aug. 21, 1953.

EMERGENCIES IN THE NEWBORN

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An editorial in THE JOURNAL, Feb. 7, 1953, stated, "Although there has been a remarkable decrease in rate of death in the first year of life during the past quarter of a century, the number of infants dying in the first 24 hours of life has diminished but little." The editorial was stimulated by Fischer's article "The First Day of Life, the Physician's Responsibility," which appeared in the November, 1952, issue of the *Medical Clinics of North America.* As Fischer emphasized, since 1945 an infant's chance of dying has been greater during the first day of life than at any time between the 2nd and 12th months (fig. 1). He commented, "That this cannot be lightly passed off (as) due to the absence of medical care at birth is . . . proved by the fact that in 1950 . . . in Philadelphia, where 95 per cent of infants are born in hospitals . . ., 534 of the 47,680 newborns failed to live beyond their first day." As can be seen in the graph, the decline in death rate during the first month of life, as well as the first day, has not kept pace with the decline in the period from the 2nd to 12th month.

The joint session of the pediatrics and radiology sections of the American Medical Association is a fitting occasion for a discussion of the more important indications for roentgenologic examination of the newborn. Prompt, accurate diagnosis and prompt, skillful treatment can alter the figures, in spite of the fact that prematurity and uncorrectable congenital deformities are the greatest obstacles to improvement.

RESPIRATORY AND CIRCULATORY EMBARRASSMENT

Of the indications for roentgen examination of the newborn, those suggesting abnormalities of the lungs and diaphragm are usually the earliest discovered. They may be conveniently discussed as a group and consist chiefly of cyanosis, respiratory irregularity, thoracic respiratory effort, gross inequality of respiratory excursion, percussion dulness, and physical signs of mediastinal shift.

While the assistance of roentgen diagnosis must be sought freely if correctable abnormalities are to be discovered and treated promptly and successfully, transient mild cyanosis, respiratory irregularity, and perhaps even intermittent thoracic respiratory effort can occur without serious significance, especially in premature babies. Since disturbance of these delicate infants is undesirable, even for so simple a procedure as a roentgenographic examination of the chest, good judgment must be displayed in the clinical evaluation of symptoms. Roentgen examination should be employed frequently but not routinely. On the other hand, when there is persistent thoracic respiratory effort, gross inequality of respiratory excursion, or percussion dulness or when physical signs of mediastinal shift are observed, roentgen examination of the chest is almost certain to yield valuable information and should be performed promptly. An emergency situation is often discovered.

Pulmonary Maldevelopment.—Roentgen examination contributes significantly to the recognition of pulmonary aplasia and hypoplasia. Conclusive diagnosis requires bronchography as well as conventional chest films. The chief importance of the recognition of these abnormalities is prognostic. They are compatible with a normal life span, though it may be necessary to give the baby an increased amount of oxygen until an initial respiratory embarrassment is overcome.

Atelectasis.—Recognition of incomplete expansion of the lungs is chiefly of prognostic value. As demonstrated in 1933 by Wilson and Farber,[1] a varying amount of nonaeration is physiological in the first few days in normal, full-term babies and in the first four to six weeks in premature infants. But atelectasis secondary to obstruction of a bronchial lumen is absolutely not physiological. Differentiation between the two is vital and requires close cooperation between pediatrician and roentgenologist. Incomplete expansion requires no treatment, but the relief of obstructive atelectasis by bronchoscopy and suction is an emergency procedure that reduces morbidity and mortality.

Pulmonary Hyaline Membrane Syndrome.—In the case of pulmonary hyaline membrane, recognition depends on close cooperation between pediatrician and roentgenologist. There are many unsettled controversies as to its pathogenesis and chemical nature,[2] but Meschan and his associates [3] have pointed out recently that the initial phase of the syndrome presents the unique combination of dyspnea and clinical manifestations of asphyxia and that roentgenograms demonstrate good pulmonary aeration. This combination is followed by progressive improvement of symptoms and clouding of the lung fields. A prompt, correct diagnosis is vitally important because, in sharp contrast to the treatment of obstructive atelectasis, infants suffering from hyaline membranes should not be laryngoscoped. Since these infants regurgitate easily, they should not be fed. They should be treated with high oxygen concentration, mist, and antibiotics. Infants brought safely through the first four days of life usually survive (fig. 2).

Positive Pressure Pneumothorax.—Pneumomediastinum and pneumothorax occurring independently or in combination are demonstrated well by chest roentgenograms. In the newborn, localized obstructive emphysema is the most frequent cause of either rupture of the visceral

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Read before the joint meeting of the Section on Pediatrics and the Section on Radiology at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

[1] Wilson, J. L., and Farber, S.: Pathogenesis of Atelectasis of New-Born, Am. J. Dis. Child. **46**: 590 (Sept.) 1933.

[2] Report of Fifth M. & R. Pediatric Research Conference, Columbus, Ohio, M & R Laboratories, 1953, p. 45.

[3] Meschan, S.; Marvin, H. N.; Gordon, V. H., and Regnier, G.: The Radiographic Appearances of Hyaline Disease of the Lungs in the Newborn, Radiology **60**: 383 (March) 1953.

[4] Macklin, M. T., and Macklin, C. C.: Malignant Interstitial Emphysema of the Lungs and Mediastinum as an Important Occult Complication in Many Respiratory Diseases and Other Conditions: An Interpretation of the Clinical Literature in the Light of Laboratory Experiment, Med. **23**: 281 (Dec.) 1944.

pleura or passage of air along perivascular spaces into the mediastinal tissues.[4] The recognition of the two conditions is valuable so that unnecessary bronchoscopy may be avoided. Furthermore, the relief of a positive pressure pneumothorax is often a lifesaving procedure.

High Tension Cysts.—The recognition of pulmonary cystic disease in the newborn has acquired increasing significance as the skill of the thoracic surgeon has developed. As Caffey comments in his book "Pediatric X-Ray Diagnosis," many lesions having a roentgenologic appearance suggestive of congenital cysts probably represent emphysematous cavities produced by check valve obstruction of a bronchus. But whatever the pathological anatomy, high tension cysts, by displacement of the thoracic viscera, embarrass respiration and circulation and may cause death. Two recent successive issues of THE JOURNAL contained reports vividly emphasizing the importance of prompt recognition and treatment of these cysts. One was a report[5] of the case of an infant in whom dyspnea and cyanosis developed on the seventh day of life. Roentgenograms revealed large cystic cavities filling the right side of the chest and displacing the mediastinum to the left. Symptoms became severer, and the child was submitted to surgery on the ninth day of life. The cysts were found to be confined to the right middle lobe, which was successfully removed. The baby recovered. Another report[6] described an infant who had had intermittent cyanosis from birth. Air-filled spaces in the left side of the chest demonstrated in roentgenograms on the second day of life were misinterpreted, and the infant underwent abdominal exploration for diaphragmatic hernia. Mediastinal shift and respiratory embarrassment progressed and by the 14th day of life, when the correct diagnosis of cystic disease was recognized, the baby was moribund. Thoracotomy was performed at once. The upper portion of the left lung contained the cysts. A simple excision was hurriedly performed, and the child made a good recovery. In the same article, there is another report of a 10-day-old infant with a history of progressive dyspnea and cyanosis from birth. Decompression of cysts demonstrated radiologically by interrib thoracotomy suction had been attempted but had failed to relieve the baby. When the child was 12 days old, a successful right middle lobe resection was performed. We can cite an instance in which a 4-week-old baby with a history of progressive dyspnea since birth was admitted in a moribund condition. Chest films demonstrated pulmonary cysts, tension pneumothorax, and mediastinal shift (fig. 3). An emergency thoracotomy was performed, a cystic right lower lobe was resected, and the infant recovered. Here there is a dramatic opportunity to alter the graph with which we started.

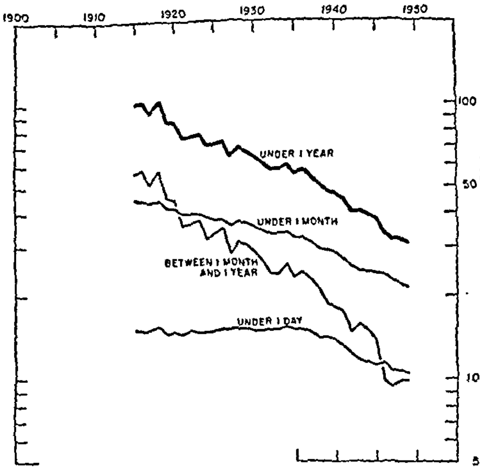

Fig. 1.—Mortality rates in the first year of life, from the Federal Security Agency, Children's Bureau.

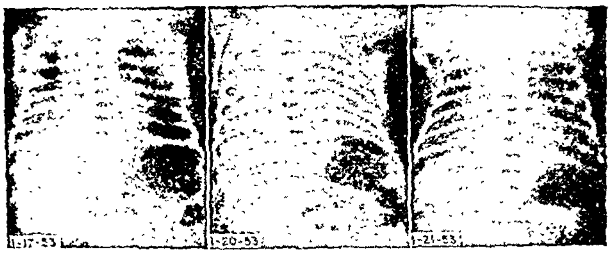

Fig. 2.—Roentgenograms of infant with pulmonary hyaline membrane syndrome; 1/17/53, first day of life, cyanosis and respiratory embarrassment severe; 1/20/53, fourth day, symptoms largely relieved; and 1/21/53, fifth day symptoms absent.

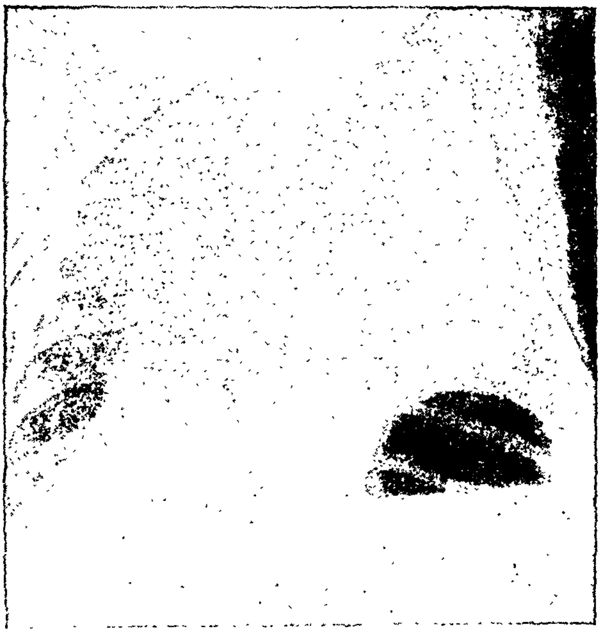

Fig. 3.—Congenital cystic disease of the right lower lobe with positive pressure pneumothorax due to bronchopleural fistulas; emergency lobectomy was followed by excellent recovery.

Diaphragmatic Hernia.—Unless corrected promptly by reduction and surgical repair, a diaphragmatic hernia is apt to cause sudden death. This may be the result of the visceral dislocation or intestinal obstruction with consequent vomiting and aspiration pneumonia. If the infant survives and longer delay is permitted, surgical repair becomes difficult because of the underdevelopment

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5. McEachern, C. G.; McCoy, R. R., and Arata, J. E.: *Lobectomy for Congenital Cystic Disease of the Lung: Report of Case in a Nine-Day-Old Infant,* J. A. M. A. **151:** 992 (March 21) 1953.

6. Gilbert, J. W.; Meyers, R. T., and Bradshaw, H. H.: Pulmonary Cysts: Report of 21 Cases, J. A. M. A. **151:** 1075 (March 28) 1953.

of the abdominal cavity. Usually thoracic gas shadows arranged in an intestinal pattern make the roentgen diagnosis obvious. Occasionally, a small amount of iodized oil (Lipiodol) must be followed through the gastrointestinal tract. If a thoracic stomach is encountered, a radiopaque medium should always be used to determine the length of the esophagus before surgery is undertaken.

Cardiac Abnormalities.—In considering the contributions of roentgenology to the handling of emergencies in the newborn in which symptoms suggest abnormalities of the contents of the thorax, the discovery of an abnormal cardiac silhouette has been deliberately slighted. Cyanosis and abnormal heart sounds are indications for chest roentgenograms from which useful information is obtained when cardiac abnormalities are present. But since cardiac surgery has as yet no place in the care of the newborn, this subject is mentioned only in passing.

ABDOMINAL MASS

The finding of an abdominal mass other than an enlarged liver or spleen is an emergency in the newborn as well as in older infants. It is an indication for immediate investigation, including roentgen examination.

A soft or cystic mass will probably be found to be due to polycystic kidney disease or hydronephrosis. Abdominal films and excretory pyelograms are usually necessary to establish a diagnosis. While the discovery of polycystic kidney disease is of value only in that it rules out the presence of a treatable condition, recognition of a hydronephrosis is of positive value. Correction by relief of an obstruction or, when necessary, by nephrectomy results in restoration of normal visceral relations in the abdomen and removal of the dangerous threat of infection of the hydronephrosis with subsequent complications. Here, too, is a real opportunity to reduce morbidity and mortality.

Since a solid mass will oftenest be due to a neuroblastoma or a Wilms' tumor, such a discovery is an emergency calling for an investigation of not more than two or three days' duration in preparation for treatment. As neuroblastomas frequently metastasize to the skeleton and Wilms' tumors to the lungs, skeletal and chest roentgen examinations are of prognostic value. Bone marrow studies may reveal invasion by neuroblastoma while the roentgenograms still indicate nothing abnormal. The discovery of metastases should, however, rarely be allowed to alter plans for surgical removal of the primary tumor. Excretory pyelograms may offer roentgen evidence of value in differential diagnosis between the two tumors, but this is of little practical therapeutic value. Pyelograms are of importance in demonstrating the relation, if any, of the abdominal mass to the kidney, and they are a preoperative necessity for proof of the presence of at least one normal, functioning kidney. The treatment of both tumors is prompt surgical excision and roentgen therapy.

Although apparent cures following bone or central nervous system metastases from neuroblastomas occur, they are extremely rare. But results in less advanced cases are encouraging. Farber[7] reported 10 of 40 patients alive three to eight years after treatment, and Wittenborg[8] reported 13 of 23 patients alive three years or longer after treatment, including 6 patients in whom liver metastases were found when the primary tumor was removed. As for the Wilms' tumors, Gross and Neuhauser[9] reported on 18 of 38 patients alive and well two years or longer after surgery and postoperative radiation.

Findings other than the usual may be revealed when an abdominal mass is investigated (fig. 4); but only rarely, except for polycystic kidney disease, is a condition found in which prompt diagnosis and treatment do not result in reduced morbidity and mortality.

DIFFICULT SWALLOWING

Immediate roentgen investigation is indicated when an infant drools excessively or spits up its first feeding. Esophageal atresia, with or without tracheal communication, is usually the cause. There is no need to discuss here the roentgenologic findings in the varieties of esophageal atresia, but it is important to emphasize that the condition is an extreme emergency. Pneumonitis and atelectasis caused by aspiration of food and saliva may develop in the first 24 hours of life. As it, too, may be aspirated, barium suspension should not be used as a contrast medium in the roentgen demonstration of the anatomy. A soft rubber catheter should be inserted to the point of obstruction and then a little iodized oil may be injected. Prompt, accurate diagnosis and immediate surgical establishment of a normal anatomic arrangement are now saving many of these infants.

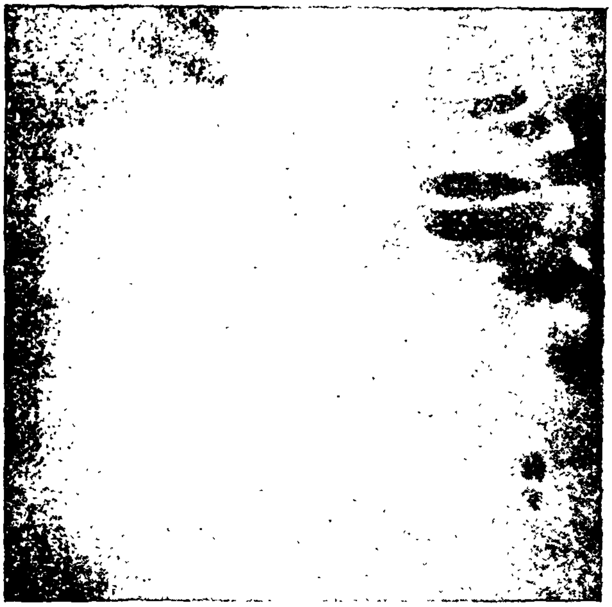

Fig. 4.—Abdominal mass in a newborn found at exploration on second day of life to be an ovarian cyst, which was successfully removed.

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[7] Farber, S.: Neuroblastoma, Am. J. Dis. Child. 60: 749 (Sept.) 1940.

[8] Wittenborg, M. H.: Roentgen Therapy in Neuroblastoma: Review of 73 Cases, Radiology 54: 679 (May) 1950.

[9] Gross, R. E., and Neuhauser, E. B. D.: Treatment of Mixed Tumors of the Kidney in Childhood, Pediatrics 6: 843 (Dec.) 1950.

VOMITING AND ABDOMINAL DISTENSION

The usual cause of vomiting and abdominal distension in the newborn is obstruction of the small bowel or upper colon. Surgical correction is often lifesaving. Time is of the essence. To quote from Caffey's book again, "There is perhaps no area of pediatric roentgenology where the patient benefits more from accurate diagnosis or where he suffers more from late or inaccurate diagnosis."

Roentgen examination of the abdomen should be carried out immediately after suspicion of intestinal obstruction arises. Though the exact cause of an obstruction may not be determined preoperatively, it is not often that its level cannot be accurately located by the demonstration of distension proximal to the obstruction and collapse distally (fig. 5).

There is no need to discuss the various causes of intestinal obstruction. Our purpose is to emphasize that, because surgical correction is usually possible when undertaken early, prompt investigation of symptoms suggesting obstruction will save lives.

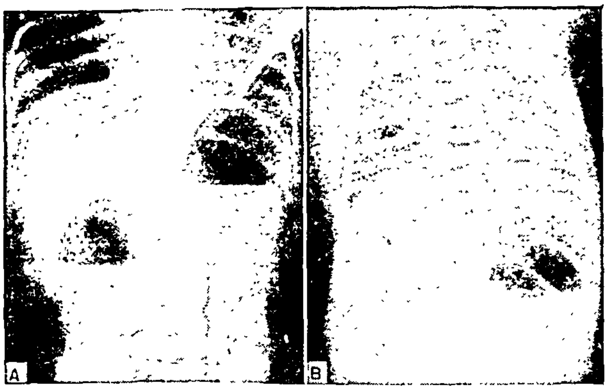

Fig. 5.—Two examples of duodenal obstruction, *A*, due to atresia and, *B*, malrotation of colon and a congenital band.

FAILURE TO PASS MECONIUM

An uncorrected atresia of the lower bowel will, of course, result in abdominal distension and vomiting. But obstruction of the lower bowel should be recognized and corrected before this clinical picture develops. An obvious but frequently overlooked indication for roentgen examination of the newborn is failure to pass meconium or scanty passage. The finding by digital rectal examination of a perforate anus does not remove the necessity of making certain that normal elimination of meconium takes place within a few hours after delivery. Complete atresia may occur above the examining finger anywhere along the colon around to the ileocecal junction and so may stenosis of varying degree.

Unlike atresia of the small bowel in which prompt surgical relief usually saves a life, atresia of the large bowel is seldom survived. Still, the only chance for survival lies in prompt recognition of the difficulty by an alert pediatrician and roentgenologist and immediate surgical intervention.

Roentgen examination is not needed to establish the diagnosis of an imperforate anus, but useful preoperative information can be obtained by taking roentgenograms with an opaque marker on the anal dimple while the baby is inverted. As reported by Wangensteen and Rice in 1930, if the blind rectal pouch is not filled with meconium, gas rises to distend it, permitting accurate measurement of the distance between skin and pouch.[10]

CONCLUSIONS

Since mortality rates in infants under one month old are not declining as rapidly as in infants from 2 to 12 months old, special emphasis should be placed on care of the newborn. Successful treatment of the newborn depends to an unusual degree on quick action.

The roentgenologist can make important contributions to the solution of problems arising in the newborn. Free use of his assistance and close cooperation between pediatrician and roentgenologist is necessary to optimum success in achieving prompt, accurate diagnosis followed by prompt, skillful treatment.

[10] Wangensteen, O. H., and Rice, C. O.: Imperforate Anus: Method of Determining Surgical Approach, Ann. Surg. 92: 77 (July) 1930.

Trends in Authorship.—A major trend in the organization of science during the past two decades has been an evolution away from the individual investigator in favor of research teams. Accompanying this trend, scientific publications have become afflicted with an increasing tendency towards multiple authorship of papers. Almost any scientific journal will reveal this affliction. . . . Is this trend necessary or desirable?

At the risk of being presumptuous, we would define the requisites for authorship of a scientific paper as being "the contribution of creative thinking to the advancement of science." Creative thinking assumes (or at least should assume) its greatest importance in the design of an experiment. How many creative minds contribute to the design of the usual experiment? No data are available and generalizations are hazardous, but it seems a reasonable guess that a distinct majority of experimental designs are the fruit of a single creative mind. There are certainly some instances where two or three individuals, who have worked as colleagues for a significant length of time, can design experiments on the basis of discussions in which there was mutual participation. But how often does the basic design of an experiment represent the product of six to eight individuals thinking in unison? . . .

The practical difficulties created by multiple authorship are obvious. Indexing and bibliographic services represent one of the most difficult problems in the structure of modern science. Whether one considers a large indexing agency or an individual investigator compiling a bibliography, multiple authorship necessitates an extravagant expenditure of valuable time and effort, which might otherwise have been devoted to more constructive endeavors.

Of even greater importance is the degrading effect that multiple authorship has upon the meaning of authorship. It would seem safe for the reader to assign a significant degree of credit to the author's name that appears first. In some instances, the reader also may be able to identify the name of the senior investigator in the laboratory of origin, and rightly or wrongly, assign him some credit for the publication. What of the rest? Just what is the reader supposed to deduce from the fact that John Doe was the seventh out of eight authors? This deduction becomes all the more difficult if the reader discovers that the work reported could easily have been accomplished by two competent investigators in two or three months' time.—Robert S. Alexander, *Circulation Research*, a Journal of the American Heart Association, July, 1953.

SURGERY BY DIRECT VISION IN THE OPEN HEART DURING HYPOTHERMIA

Henry Swan, M.D., Irvin Zeavin, M.D., S. Gilbert Blount Jr., M.D.
and
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The heart for centuries was suspected of being a delicate organ; the slightest injury was said to be uniformly fatal. Both the great Billroth and Sir Stephen Paget decreed the organ to lie outside the domain of possible surgery. Yet in reality the heart is a compact muscular organ that, by virtue of highly specialized intrinsic properties, functions continuously throughout the lifetime of the individual. It has an extraordinary capacity to adjust to the changing needs of body circulation. Its inner compulsion toward perpetual function is one of the most critical aspects of the life drive of individuals and species. Only when poisoned or deprived of its flow of nutrient requirements will this persistent organ lie still or lose itself in the quivering death of disorganized activity. A great ability to withstand trauma and to adjust to the stresses imposed by intrinsic disease emphasizes its essential vitality. Given half a chance, the heart will beat.

In the period from 1895 to 1913, Di Vecchio, Haecker, Schepelmann, Elsberg, and Carrel, as well as many others, showed in the experimental laboratory that the heart could withstand surgical trauma and that many complex operative procedures could be performed with relative safety. The main principles of cardiac surgery were well demonstrated and established. The medical tradition of centuries, however, could not be so easily set aside—the heart was delicate and should not be touched! Accordingly, for 25 years the treatment of acute trauma was the only clinical application of this knowledge. In 1938, an event of great import occurred. Pediatrician John Hubbard, of Boston, requested Robert Gross to operate on a child suffering from a patent ductus arteriosus. The successful repair of this congenital "heart" lesion provided the stimulus that has since resulted in the general recognition that the heart is not unique among the organs of the body: it is amenable to surgical therapy.

REVIEW OF SURGICAL PROCEDURES

For the past 15 years in the surgical laboratories and clinics both in the United States and abroad, the principles underlying cardiac surgery have been reexplored and the human application of these techniques has been gradually expanded. In almost all instances, however, these operations have been performed by closed methods; that is to say, the maneuvers within the heart have been done blindly, guided only by the "feel" of the palpating finger. This type of procedure, while often effective, is at best a compromise. To obtain an unimpeded view of the operative field is a fundamental principle of surgery. Adequate exposure for direct vision is an essential component of every safe surgical procedure. In this regard, the interior of the heart has offered some special technical difficulties. Operations on the pericardium, neighboring great vessels, or the exterior of the heart chambers can be easily visualized. The necessity of maintaining circulation during operative maneuvers inside the heart, however, has led investigators to seek the solution of this interesting problem down two separate avenues of study.

The first and more obvious method, of course, was to provide a mechanical pump to furnish the driving force for the blood and then to remove temporarily the heart from the circulation. Either a single pump or two pumps in association with an oxygenator (the animal's own lung, a homologous lung, or a mechanical device) could be utilized, depending on whether one wished to open one or both sides of the heart and depending on whether defects existed in the cardiac septums. This approach to the problem has been vigorously pursued in many laboratories, and recently a few clinical applications have been made.

The technical difficulties associated with this method are great. The instruments are costly and complex and require many skilled persons to use them. A major operative procedure is required to attach the machine to, and later remove it from, the patient's circulatory system, necessarily adding to the magnitude of the total operation and to the postoperative morbidity. The blood of the patient must be heparinized and its capacity to clot later restored with protamine. Overloading of the circulation must be avoided. Hemolysis and air embolism are hazards. Blood flows from the coronary vein into the right auricle and obscures the operative field unless special suction techniques are applied to the sinus. Even so, blood from the thebesian veins on the right and blood from the bronchial artery, via the pulmonary veins, on the left, appear to constitute inescapable flows. At its very best, then, the pump-oxygenators have not yet produced a dry field in which to operate, although the degree of blood flow may be compatible with intermittent visual operative maneuvers. The solutions to many of these problems associated with extracorporeal circulations have been found; others will also be solved; but the inherent characteristics of the technique seem unlikely to change. These adverse characteristics are (1) its complexity and expense, (2) the material increase in the magnitude of operation, and (3) its failure to provide a dry field for operation.

The other avenue of approach to the open heart has been the attempt to lower the metabolism of the patient until circulation can be interrupted for periods of time long enough to allow deliberate and extensive intracardiac maneuvers. It must be remembered that interruption of circulation experimentally was early utilized by Haecker, Schepelmann, and Carrel, and its limitations were explored. In the normal animal, two to three min-

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utes appeared to be the maximum allowable time before cardiac or cerebral damage occurred. This technique has recently been used clinically in a few instances,[1] but the need for longer periods of exposure has sharply limited the magnitude of the procedures that could be performed.

To Bigelow [2] and Boerema [3] must go the credit for the conception and demonstration that general hypothermia can be employed to allow cessation of circulation for as long as fifteen minutes in the dog. Since their initial reports, study of the modality of cold has been made in many laboratories. The risks appeared to be high when cooling was associated with interrupted circulation and the open heart. In Bigelow's original series, only 15% of the dogs survived. In the later studies of Lewis and Taufic [4] and of Cookson and co-workers,[5] the mortality was better but still high. The lethal complications were primarily related to two phenomena: ventricular fibrillation and coronary air embolism. To make the use of hypothermia safe for open cardiac procedures, these two complications must be effectively prevented or managed. Unfortunately, in one clinical trial made prior to the series reported herewith, the mortality was high (about 73%).[6] Much of this mortality was due to the desperate nature of the lesions treated, but some was due to the complications of hypothermia with arrest of circulation. In another series, successful closure of interauricular septal defect was achieved in three of six patients.[7]

EXPERIMENTAL STUDY

On the basis of extensive experimental evidence, together with clinical experience in 15 patients, we believe that hypothermia in association with cessation of circulation may now be performed with a degree of safety that warrants a more extensive clinical trial. In our standard experimental situation, a dog was anesthetized with veterinary pentobarbital (Nembutal) and cooled in ice water to a temperature of 20 to 25 C. Thoracotomy was performed; flow of blood into the heart was occluded for 15 minutes, during which time a right auricular cardiotomy was performed. No other pharmaceutical agents were employed. Artificial respiration was performed by means of a mechanical respirator with oxygen via an endotracheal tube. After operation the animal was warmed in water at 45 C. A great variety of physiological variables were studied with the hope of unearthing changes that might be related to the incidence of ventricular fibrillation. This work has been reported elsewhere.[8] In essence, however, two changes in body constants appeared related to fibrillation.

The first change was in the concentration of carbon dioxide in the blood (and probably the tissues). On the basis of our work together with that of others,[9] it appeared likely that a sudden fall in carbon dioxide from an abnormally high level toward normal was a fibrillatory stimulus in the dog. By means of hyperventilation to control carbon dioxide accumulation (deliberate respiratory alkalosis) the incidence of ventricular fibrillation in the experimental animal was reduced to a level of about 8%.

The second change was found to be a shift in the locus of potassium. During cooling and hyperventilation a fall in the potassium level in the serum was observed. The exact significance of this change in terms of ventricular fibrillation was not understood, but the well-known importance of this ion in relation to cardiac rhythm led us to investigate the use of potassium as a defibrillatory agent. Previously, in our hands, the use of electric shock had been entirely ineffective as a means of resuscitation of ventricular fibrillation in the hypothermic animal. We now found, however, that by means of a potassium chloride solution injected into the coronary circulation we could routinely defibrillate the cold dog's heart and restore normal rhythm.

On the basis of these two phases of the study we felt that ventricular fibrillation complicating hypothermia could be largely prevented; even if it occurred, an effective means of resuscitation was available. The other chief source of worry was related to the prevention of coronary air embolism. Extremely small volumes of air entering the coronary arteries are capable of causing myocardial ischemia and death. If the cardiac septums are intact and air enters the right side of the heart, a considerable volume may escape into the pulmonary circulation without lethal effect. Air admitted directly into the left side of the heart or indirectly via a right-to-left opening, such as a septal defect or pulmonary arteriovenous fistula, constitutes an immediate threat to life even if small amounts should escape into the aorta. For this reason, great care must be exercised to prevent this occurrence during open cardiac operations. On the basis of experience with the experimental creation of auricular septal defects, with the use of an open approach through the right auricle in the warm animal, a technique was developed to prevent this catastrophe.[10] Accordingly, in both our experimental and our clinical experience using hypothermia, this complication did not occur.

Surgeons who have had the opportunity to watch valvular function in the open beating heart are impressed with the dual phase of the act of closure of the atrioventricular valves. The first phase appears to be muscular and involves an actual narrowing of the ring at the base of the valve. The second phase is hydrodynamic and re-

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7. Lewis, F. J.: Personal communication to the authors.
8. Swan, H.; Zeavin, I.; Holmes, J. H., and Montgomery, V.: Cessation of Circulation in General Hypothermia: I. Physiologic Changes and Their Control, Ann. Surg. **138**: 360, 1953.
9. Miller, F. A., and others: Respiratory Acidosis: Its Relationship to Cardiac Function and other Physiological Mechanisms, Surgery **32**: 171, 1952.
10. Swan, H.; Maresh, G.; Johnson, M. E., and Warner, G. W.: Experimental Creation and Closure of Auricular Septal Defects, J. Thoracic Surg. **20**: 542, 1950.

quires the presence of sufficient fluid within the ventricle to swing the valve leaflets into the position of effective closure. If the ventricle is filled with air, the second phase does not occur, and the valve remains partially open. Under these circumstances, the ventricle develops no head of pressure to open the outflow valves and there is no forward propulsion of either fluid or air; the aortic and pulmonary valves remain closed.

The importance of these observations in terms of air embolism to coronary arteries is obviously great. Air embolism is unlikely to occur during the period when the heart is open. The dangerous moment occurs immediately after closure of the myocardial incision and the return of blood flow. Air trapped in the heart may now be propelled forward into the peripheral or pulmonary circulations. One of the prime means of prevention, therefore, is to remove all air from the heart before closure of the myocardial incision.

The technique evolved may be described as follows. Inflow of blood into the heart is stopped by occlusion of the venae cavae. About one minute is allowed for the beating heart to partially empty itself and the pulmonary circuit. A noncrushing clamp is now placed across the aorta and pulmonary arteries at their point of exit from the ventricles. It is our intent that this clamp should actually occlude the orifices of the coronary arteries as an added means of precaution. That it does so has been demonstrated experimentally by dye injection techniques. Movement of fluid through the exit valves of course ceases at this moment. The heart is now opened, allowing the residual blood to escape and air to enter. The operative procedure is performed within the allotted time limit. Just before closure of the heart incision, the chest cavity is rapidly flooded with Ringer's solution until the entire heart lies under water. As it beats, the air escapes through the cardiac incision that lies uppermost as the Ringer's solution fills the chambers. After a few beats, it can be clearly seen that no more air is bubbling up from the heart. A second noncrushing clamp is then applied (under water) to the cardiotomy incision, closing the heart. The clamp across the aorta and pulmonary artery is now removed. The superior vena cava is released and blood flow allowed to resume. After about 30 to 60 seconds, when the heart seems to be tolerating its work load again, the inferior vena cava is released and total circulation is resumed. The cardiotomy may now be closed with deliberation. It is important not merely to try to fill the heart with Ringer's solution but to completely immerse the heart in the solution, just as one would submerge a sponge in a bucket.

REPORT OF CASES

CASE 1.—The patient was an 11-year-old cyanotic white boy who weighed 74 lb. (33.6 kg.). The clinical diagnosis of isolated pulmonic stenosis with patent foramen ovale was confirmed by catheterization. On Jan. 9, 1953, hypothermia was induced with the patient under thiopental (Pentothal)-cyclopropane-ether anesthesia. After 37 minutes, when his body temperature was 34 C, he was removed from the ice water. His lowest temperature was 28 C. A standard transventricular pulmonary valvulotomy was accomplished without circulatory occlusion. All observers agreed that the heart was unusually stable throughout the procedure. The patient had an uncomplicated convalescence.

CASE 2.—A 12-year-old white girl, who weighed 60 lb. (27.2 kg.), had cyanotic congenital heart disease due to transposition of the great vessels with an interauricular septal defect. A previous shunt operation had been done four years previously with improvement but had closed during the preceding year. At operation on June 9, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether. After 35 minutes she was removed from the ice water, with a body temperature of 31 C. Her lowest temperature was 26 C. An intrapericardial anastomosis between the ascending aorta and right pulmonary artery was accomplished without arrest of circulation. The heart was very stable throughout. The patient had an uneventful convalescence.

CASE 3.—The cyanotic congenital heart disease of an 8-year-old white boy, who weighed 63 lb. (28.6 kg.) was confirmed by catheterization to be isolated valvular pulmonic stenosis. At operation on Feb. 19, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether anesthesia. After 44 minutes he was removed from the ice water, with a body temperature of 39 C. His lowest temperature was 25.2 C. Circulatory arrest was accomplished by complete cardiac inflow occlusion for 7.5 minutes. Partial excision of the stenosed pulmonic valve was accomplished under direct vision through an incision in the pulmonary artery. Auricular fibrillation occurred during cooling but disappeared on rewarming to 27 C. The patient had an uneventful convalescence.

CASE 4.—The patient was a 7-year-old white boy who weighed 51 lb. (23.1 kg.). Cyanotic congenital heart disease was diagnosed as probable infundibular pulmonic stenosis associated with tetralogy of Fallot. Hypothermia was induced with the patient under thiopental-cyclopropane-ether anesthesia. After 37 minutes he was removed from the ice water, with a body temperature of 30 C. His lowest temperature was 23.6 C. Circulatory arrest was accomplished by complete cardiac inflow tract occlusion for 2.1 minutes. The patient was found to have pulmonic valvular stenosis as part of the tetralogy. Half of the stenotic valve was excised under direct vision. Auricular fibrillation occurred during cooling and disappeared when the patient was rewarmed to 26.5 C. Convalescence was uneventful.

CASE 5.—The cyanotic congenital heart disease of an 8-year-old white girl, who weighed 66 lb. (29.9 kg.), was established by catheterization to be isolated valvular pulmonic stenosis. At operation on March 10, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether anesthesia. After 39 minutes she was removed from the ice water, with a body temperature of 30 C. Her lowest temperature was 25.7 C. Circulatory arrest was accomplished by complete cardiac inflow occlusion for 2.5 minutes. Pulmonic valvuloplasty by incision in three places was performed under direct vision. Auricular fibrillation occurred and disappeared when the patient was rewarmed beyond 26 C. Convalescence was uneventful.

CASE 6.—The patient was a 9-year-old white boy who weighed 66 lb. (29.9 kg.). The clinical diagnosis of isolated pure pulmonic stenosis was confirmed by catheterization. At operation on April 14, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether. After 35 minutes he was removed from the ice water, with a body temperature of 30.8 C. His lowest temperature was 23.7 C. Circulatory arrest was accomplished by complete cardiac inflow tract occlusion for 2.5 minutes. Pulmonic valvuloplasty by incision in three places was performed under direct vision. Auricular fibrillation occurred and disappeared on rewarming the patient beyond 26 C. Convalescence was uneventful.

CASE 7.—A 26-year-old white woman who weighed 104 lb. (47.2 kg.) had suffered progressive disability from a large interatrial septal defect confirmed by catheterization on two occasions. At operation on April 15, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether anesthesia. After 77 minutes she was removed from the ice water, with a body temperature of 29 C. Her lowest temperature was 22.3 C. Circulatory arrest was accomplished by complete cardiac inflow occlusion for 7.5 minutes. The large interatrial septal defect was closed with direct suture. Auricular utes appeared to be the maximum allowable time before cardiac or cerebral damage occurred. This technique has recently been used clinically in a few instances,[1] but the need for longer periods of exposure has sharply limited the magnitude of the procedures that could be performed.

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EXPERIMENTAL STUDY

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The first change was in the concentration of carbon dioxide in the blood (and probably the tissues). On the basis of our work together with that of others,[9] it appeared likely that a sudden fall in carbon dioxide from an abnormally high level toward normal was a fibrillatory stimulus in the dog. By means of hyperventilation to control carbon dioxide accumulation (deliberate respiratory alkalosis) the incidence of ventricular fibrillation in the experimental animal was reduced to a level of about 8%.

The second change was found to be a shift in the locus of potassium. During cooling and hyperventilation a fall in the potassium level in the serum was observed. The exact significance of this change in terms of ventricular fibrillation was not understood, but the well-known importance of this ion in relation to cardiac rhythm led us to investigate the use of potassium as a defibrillatory agent. Previously, in our hands, the use of electric shock had been entirely ineffective as a means of resuscitation of ventricular fibrillation in the hypothermic animal. We now found, however, that by means of a potassium chloride solution injected into the coronary circulation we could routinely defibrillate the cold dog's heart and restore normal rhythm.

On the basis of these two phases of the study we felt that ventricular fibrillation complicating hypothermia could be largely prevented; even if it occurred, an effective means of resuscitation was available. The other chief source of worry was related to the prevention of coronary air embolism. Extremely small volumes of air entering the coronary arteries are capable of causing myocardial ischemia and death. If the cardiac septums are intact and air enters the right side of the heart, a considerable volume may escape into the pulmonary circulation without lethal effect. Air admitted directly into the left side of the heart or indirectly via a right-to-left opening, such as a septal defect or pulmonary arteriovenous fistula, constitutes an immediate threat to life even if small amounts should escape into the aorta. For this reason, great care must be exercised to prevent this occurrence during open cardiac operations. On the basis of experience with the experimental creation of auricular septal defects, with the use of an open approach through the right auricle in the warm animal, a technique was developed to prevent this catastrophe.[10] Accordingly, in both our experimental and our clinical experience using hypothermia, this complication did not occur.

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[4] Lewis, F. J., and Taufic, M.: Closure of Atrial Septal Defects with Aid of Hypothermia: Experimental Accomplishments and Report of One Successful Case, Surgery 33:52, 1953.

[5] Cookson, B. A.; Neptune, W. B., and Bailey, C. P.: Hypothermia as Means of Performing Intracardiac Surgery Under Direct Vision, Dis. Chest. 22:245, 1952.

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The technique evolved may be described as follows. Inflow of blood into the heart is stopped by occlusion of the venae cavae. About one minute is allowed for the beating heart to partially empty itself and the pulmonary circuit. A noncrushing clamp is now placed across the aorta and pulmonary arteries at their point of exit from the ventricles. It is our intent that this clamp should actually occlude the orifices of the coronary arteries as an added means of precaution. That it does so has been demonstrated experimentally by dye injection techniques. Movement of fluid through the exit valves of course ceases at this moment. The heart is now opened, allowing the residual blood to escape and air to enter. The operative procedure is performed within the allotted time limit. Just before closure of the heart incision, the chest cavity is rapidly flooded with Ringer's solution until the entire heart lies under water. As it beats, the air escapes through the cardiac incision that lies uppermost as the Ringer's solution fills the chambers. After a few beats, it can be clearly seen that no more air is bubbling up from the heart. A second noncrushing clamp is then applied (under water) to the cardiotomy incision, closing the heart. The clamp across the aorta and pulmonary artery is now removed. The superior vena cava is released and blood flow allowed to resume. After about 30 to 60 seconds, when the heart seems to be tolerating its work load again, the inferior vena cava is released and total circulation is resumed. The cardiotomy may now be closed with deliberation. It is important not merely to try to fill the heart with Ringer's solution but to completely immerse the heart in the solution, just as one would submerge a sponge in a bucket.

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Case 4.—The patient was a 7-year-old white boy who weighed 51 lb. (23.1 kg.). Cyanotic congenital heart disease was diagnosed as probable infundibular pulmonic stenosis associated with tetralogy of Fallot. Hypothermia was induced with the patient under thiopental-cyclopropane-ether anesthesia. After 37 minutes he was removed from the ice water, with a body temperature of 30 C. His lowest temperature was 23.6 C. Circulatory arrest was accomplished by complete cardiac inflow tract occlusion for 2.1 minutes. The patient was found to have pulmonic valvular stenosis as part of the tetralogy. Half of the stenotic valve was excised under direct vision. Auricular fibrillation occurred during cooling and disappeared when the patient was rewarmed to 26.5 C. Convalescence was uneventful.

Case 5.—The cyanotic congenital heart disease of an 8-year-old white girl, who weighed 66 lb. (29.9 kg.), was established by catheterization to be isolated valvular pulmonic stenosis. At operation on March 10, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether anesthesia. After 39 minutes she was removed from the ice water, with a body temperature of 30 C. Her lowest temperature was 25.7 C. Circulatory arrest was accomplished by complete cardiac inflow occlusion for 2.5 minutes. Pulmonic valvuloplasty by incision in three places was performed under direct vision. Auricular fibrillation occurred and disappeared when the patient was rewarmed beyond 26 C. Convalescence was uneventful.

Case 6.—The patient was a 9-year-old white boy who weighed 66 lb. (29.9 kg.). The clinical diagnosis of isolated pure pulmonic stenosis was confirmed by catheterization. At operation on April 14, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether. After 35 minutes he was removed from the ice water, with a body temperature of 30.8 C. His lowest temperature was 23.7 C. Circulatory arrest was accomplished by complete cardiac inflow tract occlusion for 2.5 minutes. Pulmonic valvuloplasty by incision in three places was performed under direct vision. Auricular fibrillation occurred and disappeared on rewarming the patient beyond 26 C. Convalescence was uneventful.

Case 7.—A 26-year-old white woman who weighed 104 lb. (47.2 kg.) had suffered progressive disability from a large interatrial septal defect confirmed by catheterization on two occasions. At operation on April 15, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether anesthesia. After 77 minutes she was removed from the ice water, with a body temperature of 29 C. Her lowest temperature was 22.3 C. Circulatory arrest was accomplished by complete cardiac inflow occlusion for 7.5 minutes. The large interatrial septal defect was closed with direct suture. Auricular fibrillation occurred and disappeared when the patient was rewarmed beyond 26.5 C. She was given a smaller transfusion than would have been usual in such an operation because of fear of heart failure. Shock occurring in the recovery room was successfully combated with 1,500 cc. of blood. Convalescence was slow, with shifting arrhythmias that complicated her course. Two months later the heart was smaller, and a great increase in exercise tolerance had occurred.

Case 8.—The cyanotic congenital heart disease of a 10-year-old white boy, who weighed 70 lb. (31.8 kg.), was established as tetralogy of Fallot by catheterization. At operation on April 21, 1953, hypothermia was induced with the patient under cyclopropane-ether anesthesia. After 45 minutes he was removed from the ice water, with a body temperature of 31 C. His lowest temperature was 24.6 C. Circulatory arrest was accomplished by complete cardiac inflow occlusion for 8.5 minutes. An infundibular stenosis was excised under direct vision. An anomalous coronary artery frustrated attempt at a larger ventriculotomy to repair the interventricular septal defect. Cardiac arrest occurred during the operation but responded immediately to massage. Auricular fibrillation occurred during cooling and disappeared on rewarming the patient. Convalescence was uneventful.

Case 9.—A 6-year-old white girl, who weighed 41 lb. (18.6 kg.), had suffered progressive disability from a large interatrial septal defect proved by catheterization. At operation on May 5, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether anesthesia. After 40 minutes, she was removed from the ice water, with a body temperature of 29 C. Ventricular fibrillation was noted four minutes later, and cardiac massage was instituted rapidly. Defibrillation was performed with 0.5 mEq. of potassium chloride perfused into the coronary arteries. Her lowest temperature was 22.6 C. Circulatory arrest was accomplished by complete cardiac inflow occlusion for five minutes. A large interatrial septal defect was closed by direct suture. Cardiac arrest occurred after partial closure of the pericardium. Massage and intracardiac injection of 2 cc. of 2% calcium chloride were effective in restoring normal rhythm. Convalescence was uneventful except for temporary bilateral peroneal palsy of unknown cause.

Case 10.—Isolated pulmonic valvular stenosis without cyanosis was confirmed in a 3-year-old white girl, who weighed 34 lb. (15.4 kg.), by catheterization. On June 12, 1953, hypothermia was induced with the patient under vinyl ether (Vinethene) and ethyl ether anesthesia. After 23 minutes she was taken from the ice water, with a body temperature of 30 C. Her lowest temperature was 25.5 C. Circulatory arrest was accomplished by complete cardiac inflow occlusion for 2.17 minutes. Incision of the thick stenosed pulmonic valve was done in two places under direct vision, forming a bicuspid valve. The patient had an uneventful convalescence.

Case 11.—The patient was a 4-year-old boy who weighed only 26 lb. (11.8 kg.). His interauricular septal defect with tricuspid regurgitation had produced a very large heart bordering on failure, in spite of digitalis therapy during the past two years. At operation on June 18, 1953, hypothermia was induced with vinyl ether-ethyl ether anesthesia. After 19 minutes the patient was removed from the ice water, with a body temperature of 29 C. His lowest temperature was 21.5 C. Technical repair of the septal defect was accomplished satisfactorily with seven minutes of inflow tract occlusion. The heart went into standstill during occlusion and shortly afterward into ventricular fibrillation. The patient was warmed to 33 C, while cardiac massage maintained the circulation. The ventricles were defibrillated with potassium. The beat, however, was never vigorous, and the patient died with a dilated failing myocardium.

Case 12.—The frail stature of a 6-year-old boy, who weighed 40 lb. (18.1 kg.), was due to a large interauricular septal defect, although he had never been in frank heart failure. At operation on June 26, 1953, hypothermia was induced with the patient under thiopental-cyclopropane-ether anesthesia. After 35 minutes he was removed from the ice water, with a body temperature of 28 C. His lowest temperature was 25.5 C. A large interatrial septal defect was sutured under direct vision during occlusion of circulation lasting 6 minutes 15 seconds. Auricular fibrillation reverted to sinus rhythm on return of circulation. The patient's postoperative course was uneventful.

Case 13.—The patient was a 3-month-old boy who was suffering acute heart failure associated with intense cyanosis. His condition improved with digitalis and oxygen, but three days later jaundice developed, thought to be hepatic in origin. On June 26, 1953, because of his large heart and his failure to improve, he was operated on, with a diagnosis of possible pulmonary valvular stenosis. Hypothermia was induced rapidly with the patient under thiopental-ether anesthesia. After 11 minutes he was removed from the ice water, with a body temperature of 30.8 C. His lowest temperature was 25.6 C. Exploration revealed idiopathic pulmonary hypertension. No therapeutic procedure was attempted. Immediate recovery was satisfactory, but the patient subsequently died of his cardiac malformation.

Case 14.—The cyanotic heart disease of a 28-year-old white mother of 2 children had caused progressive disability for the preceding two years. Two months before admission a right hemiplegia had occurred. Clinical diagnosis of tetralogy of Fallot was confirmed by angiocardiographic demonstration of infundibular pulmonic stenosis. At operation on July 1, 1953, cardiac standstill occurred after induction and intubation but before cooling was begun. Cardiac resuscitation was accomplished after 2 minutes 10 seconds by thoracotomy and massage. The wound was closed tightly with mattress sutures, and the patient then cooled in ice water for 47 minutes to 31 C. Her lowest temperature was 25.5 C. Cardiac arrest again occurred as the chest was being prepared for draping. The previous wound was rapidly reopened and the heart beat restored by massage at 1 minute 10 seconds. From this point on, the heart beat was remarkably stable. With circulatory arrest lasting five minutes, a tight infundibular stenosis was excised under direct vision through a right ventriculotomy. No attempt was made to close a very small interventricular septal defect. Immediately after the patient's recovery from anesthesia, cyanosis disappeared. The postoperative course was uneventful.

Case 15.—The patient was a 20-month-old girl who weighed 18 lb. (8.2 kg.). Cyanosis during an upper respiratory infection led to the diagnosis of pulmonic valvular stenosis with patent foramen ovale. Operation was performed on July 9, 1953. Hypothermia was induced with the patient under thiopental-ether anesthesia. After 24 minutes she was removed from the ice water, with a body temperature of 31 C. Her lowest temperature was 27 C. Via an incision in the pulmonary artery, plastic revision and partial excision of the stenotic pulmonary valve was performed during circulatory arrest lasting 3 minutes 50 seconds. The patient's operative course was uneventful, and her immediate recovery was quite satisfactory.

COMMENT

These specific operations were chosen deliberately for the initial experience with human hypothermia, because the existing operations for the diseases treated have left much to be desired. As experience has accumulated in various clinics, it has become increasingly clear that the transventricular incision and dilatation of the stenosed pulmonary valve has given very disappointing objective results.[11] It is true the immediate clinical results are excellent. But surgeons who have studied, by actual measurement, the residual right ventricular pressure weeks or months following operation in these same patients have found a disturbing number in whom this pressure is still markedly elevated, that is, a systolic pressure of 70 mm. Hg or more. This is a level approximately three times normal, and, although it is lower than it was preoperatively, it is still pathologically elevated. One cannot predict a normal life span for such a patient. It seems desirable, therefore, to attempt a more complete plastic revision of the valve, a maneuver easily made possible by the direct vision technique.

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[11] Bing, R.: Personal communication to the authors. Dodrill, F. D.; Gerisch, R. A.; Johnson, A. S., and Hill, E.: Pulmonary Valvuloplasty Under Direct Vision: Aid of Mechanical Right Heart, read before the American Association of Thoracic Surgery, San Francisco, March, 1953. Humphreys, G. H.; Powers, S. R.; Fitzpatrick, H. F., and Lanman, B. M.: Pulmonary Valvular Stenosis: Clinical and Physiologic Studies of 25 Cases Treated by Valvulotomy, read before the Meeting of Society for Vascular Surgery, New York, May, 1953.

Resection of infundibular stenosis blindly with rongeurs has not appealed to many surgeons. Resection of a precise area under direct vision associated with the additional possibility of closing the ventricular septal defect in tetralogy of Fallot offers the potentiality of actually curing the patient of his intracardiac defects. Clearly, if the procedure is feasible and safe, this would be an objective superior to the addition of a shunt. Resection of the stenosis is not unduly difficult, but closure of the septal defect may prove more arduous.

The operations currently available for interauricular septal defects are all blind manipulations and carry a significant operative risk.[12] Certain types of defects, particularly septum primum lesions overlying the valves, are not amenable to treatment by these methods. An open operative approach to this problem seems worthy of trial.

To date, we have used cooling with cessation of circulation primarily in children, only two patients having been adult. There is good experimental evidence that the young tolerate this procedure with greater safety than the older age group. We hope to establish the safety of the procedure in this younger age group before proceeding to expand slowly into adult ranges.

We believe it is desirable to cool the patients as rapidly as possible, perform the procedure, and then warm to near normal temperatures at once. Cardiac irregularities occur with great frequency in these sick hearts at levels below 28 C. Auricular fibrillation, although common in the human patient, is not a matter of great concern, because, in our experience, if it occurs during cooling, a sinus rhythm will always return at approximately the same temperature during rewarming. Ventricular fibrillation has occurred twice but was successfully reverted on both occasions by the use of potassium. In one patient, however, sustained spontaneous beat could not be subsequently obtained, we believe, because of cardiac dilatation and myocardial failure. This was the only operative death in the series.

The importance of an adequate exposure of the heart and great vessels for this type of procedure must be emphasized. It is essential that all sides of the heart, the superior and inferior venae cavae, the ascending aorta and pulmonary artery, and the lung roots be readily reached. For this, in our experience, there is no incision equal to the bilateral transverse sternal-cutting intercostal incision in the fourth interspace. Although long, the incision involves the removal of no part of the thoracic skelton, is well tolerated by the patient, and heals quickly, with minimal postoperative discomfort.[2]

SUMMARY AND CONCLUSIONS

Fifteen patients have undergone cardiac operations while they were in a state of hypothermia, with body temperatures ranging from 21.5 to 26 C. In 13 of these patients, circulation was stopped for periods varying from 2 to 8½ minutes, and the operation was performed in the open heart under direct vision. There was one operative death in this group. The remainder of the patients have had excellent clinical results, save one on whom no therapeutic procedure could be performed.

Hypothermia was induced during anesthesia by immersing the patient in a tub full of ice water; warming was also achieved in the tub with warm water. Speed of cooling depended largely on body build; the less obese patients cooled more rapidly. Prevention of shivering and hyperventilation were very important aspects of the cooling technique. Potassium appeared to be a valuable agent for combating ventricular fibrillation in the cold patient. The prevention of coronary artery air embolism was of great importance and was achieved by a combination of maneuvers, of which one of the most important was complete immersion of the heart in salt solution at the time of closure of the cardiotomy.

Direct vision intracardiac surgery should be further explored and possibly expanded in scope, since cessation of circulation in the presence of hypothermia allows an essentially bloodless field, with reasonable safety for periods up to at least eight minutes. It is surprising how much can be deliberately accomplished in this period of time. Various forms of pulmonic stenosis in nine patients and interauricular septal defects in four have been successfully repaired by this technique. Other stenotic or regurgitant valve lesions and defects of the ventricular septum may also prove to be amenable to therapy.

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[12] Gross, R. E.; Watkins, E., Jr.; Pomeranz, A. A., and Goldsmith, E. I.: Method for Surgical Closure of Interauricular Septal Defects, Surg., Gynec. & Obst. **96**: 1, 1953. Swan, H.: Surgical Closure of Interauricular Septal Defects, J. A. M. A. **151**: 792 (March 7) 1953. Bailey, C. P., and others: Congenital Interatrial Communications: Clinical and Surgical Indications with Description of New Surgical Technique: Atrio-Septo-Pexy, Ann. Int. Med. **37**: 888, 1952.

Living.—It may well be true that we have from necessity directed most of your time to vocational training and that we have not paid much attention to training you how to live. The graciousness of life has perhaps been blurred by the overriding necessity of acquiring efficiency and of keeping abreast of scientific progress. We may thus have given you too little time to cultivate a sense of beauty, to quicken your appreciation, and to improve your discrimination between things which are good and those which are not. That is not necessarily the case, but even if it were, it is fortunately not too late to remedy it. You must not only keep in touch with the literature in your own and related subjects, but you would also be wise to take such interest as you can in literature in general, in music, and in art. History is the great opener of doors and you will find that the history of your own subject will give you an insight into the development of man and his problems, and add interest and colour to your life. Getting a wider knowledge of man and the world he lives in, of his arts and crafts, of his philosophy and religions, and obtaining some acquaintance with the thoughts and ideas of the great scholars and scientists of the past will provide you with a well-furnished mind which, when the emotional side of your life becomes of lessening importance and your work is not the all-in-all that you think it is now, will be a source of comfort and delight.—*Sir Sidney Smith*, valedictory address delivered at the graduation ceremony in the McEwan Hall, Edinburgh, on July 15, 1953, *The Lancet*, Sept. 5, 1953.

MERITS OF THE PRESENT CORONER SYSTEM

STATISTICAL COMPARISON WITH THE MEDICAL EXAMINER SYSTEM

Henry W. Turkel, M.D., San Francisco

Many articles have appeared in recent years, in both lay and professional journals,[1] recommending more widespread use of the medical examiner system of medicolegal investigation. With this stimulus, numerous moves have been made to supplant the coroner system, just as is now occurring in California.

It is felt, however, that many of the conclusions drawn and references made relative to the coroner system are taken from sources long outdated. Issue is often made of the fact that the office of the coroner dates back to the time of Henry IV, and the function of the office in that era is described in considerable detail. This would seem to have little or no bearing in a factual analysis of modern coroners' offices. Repeatedly, the very unfavorable report of the National Research Council is offered as evidence of the inadequacies of the coroner system. This report, the last to deal in facts rather than generalizations, was made in 1928 [2] and enlarged in 1932.[3] Since that report was made 21 years ago, any conclusion drawn from it would have little application in a review of the operation of present-day coroners' offices and should not be permitted to reflect in any present determination of the need for a change.

While the conduct of coroners' offices in some of the large metropolitan centers, in years past, may have warranted a change, which did indeed lead to improvement, there should be evidence showing that any given locality has actual need for such a change before it is undertaken.

SYSTEMS DESCRIBED

Varying somewhat with the local laws, the coroner, or his deputy, investigates the cause and circumstances of all deaths from unnatural causes, such as by violence, injury, or criminal means, or from unknown causes. The coroner may, at his discretion, order autopsies or other scientific procedures. Further, he may subpoena witnesses to appear at an inquest, at which time the facts and events related to the death are recorded. If a crime is suspected by the jury, appropriate criminal proceedings are instituted independently of any other law enforcement agency; thus an accused is brought before a judge.

The medical examiner, similarly subject to variation in local laws, investigates all deaths that occur under the circumstances listed above, and the purposes and goals are the same as those of the coroner.

Minor differences are to be found between the two systems in the mechanics and administration of the medicolegal investigations. There are three main diferences. 1. Medical examiners require that a physician investigate the scene of death, while coroners use trained deputies. 2. The chief medical examiner who directs the activities of his office must be a physician, while coroners who have similar supervisory activities may be laymen. 3. The medical examiner does not hold inquest proceedings; thus he has no direct authority to bring an accused before a judge. He refers his findings to the district attorney who, in turn, may or may not take action according to his own view or wish.

These differences apparently lead to the only major and important difference, that is, the relative effectiveness with which each system reaches the desired end. That end is the discovery of the true cause of death and the administration of justice. Whether a system is or is not accomplishing that end is not a matter for sheer speculation but requires careful statistical evaluation. This study, based on current statistics, compares California coroner jurisdictions with various of the medical examiner jurisdictions. It may serve as a guide in pointing out the need and available methods for critical review of the existing program in any area contemplating a change.

COMPARISON OF AUTOPSY RATES

Recently, the Council on Medical Education and Hospitals of the American Medical Association has directed [4] that "No hospital will be approved for intern training which does not maintain an autopsy rate of at least 25% of its deaths." The council continues, "The necropsy rate has come to be recognized as an index of the scientific interest of the medical staff."

The quality and thoroughness, as well as the scientific interest, in medicolegal investigation is similarly reflected by the percentage of autopsies done to correctly establish the cause of death. This is particularly true if one considers that all deaths requiring medicolegal investigation occur under doubtful or unknown circumstances, whereas in hospitals there is almost always some study before death occurs.

Table 1 is taken from statistics available as far back as 1949. While the figures from the various communities are not all for the same year, they are for the last available year and are within the period 1949-1952. This is deemed representative, since such figures do not change by more than 1 or 2% from year to year.

Any case falling within the jurisdiction of medicolegal authority has, by definition, a very real element of doubt. It is difficult to conceive that the true cause and all contributory factors in these deaths by violence, injury, or unknown causes can be ascertained when, as in some jurisdictions, in 60 to 80% of these cases the cause of death is established from history and inspection without an autopsy. That in one jurisdiction autopsies were per-

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Coroner, City and County of San Francisco.

[1] (*a*) Regan, L. J.: Forensic Medicine as a Specialty, Ann. West. Med. & Surg. 4:444-447 (Sept.) 1950. Ford, R.: Medico-Legal Investigation of Sudden Death, ibid. 4:466-469 (Sept.) 1950. (*b*) Vance, B. M.: Statistical Review of the Medical Examiner System, Am. J. M. Jurisprudence 2:243-248 (July) 1939.

[2] Schultz, O. T., and Morgan, E. M.: The Coroner and the Medical Examiner, Bull. Nat. Res. Council, no. 64, Washington, D. C., July, 1928.

[3] Schultz, O. T.: Possibilities and Need for Development of Legal Medicine in the United States, Bull. Nat. Res. Council, no. 87, Washington, D. C., Oct., 1932.

[4] Revision of the Essentials of an Approved Internship, editorial, J. A. M. A. **151**:561 (Feb. 14) 1953.

formed to find the correct cause of death in only 3% of these doubtful cases is an almost alarming finding.

Coroners, often laymen, are said perhaps to order more autopsies than are necessary. While they obviously order more, it cannot be said that these are not necessary. Some believe that medical examiners can oftener establish the cause of death without an autopsy because they are physicians and because they go to the scene to inspect the body and surroundings. We know, however, that every physician knows of occasions in which a preliminary opinion, made after considerable antemortem study, was proved wrong at autopsy. It is doubtful that anyone, physician or not, can safely establish the cause of death in a medicolegal case without an autopsy, except in a relatively few instances.

To establish this point exactly, I have utilized the records of the San Francisco coroner's office in which autopsies are performed in 99% of coroner's cases.

TABLE 1.—*Comparison of Autopsy Rates in Coronor and Medical Examiner Jurisdictions*

Coroner System *	Total Deaths in Area in 1 Yr.	Total Medicolegal Autopsies Performed in 1 Yr.	Medicolegal Autopsies, % of All Deaths	Cause of Death Established by Medicolegal Officer in 1 Yr.	Medicolegal Cases in Which Cause of Death Established by Autopsy, %	Area, Sq. Mi.	Yr.
San Francisco County	9,751	2,310	21.00	2,364	99	45	1952
Marin County	608	160	26.00	174	92	521	1952
Alameda County	7,663	1,008	13.00	1,373	73	733	1952
Los Angeles County	41,217	4,226	10.00	7,539	56	4,071	1949
Contra Costa County	1,501	451	30.00	451	99	734	1952
Tulare County	1,030	122	12.00	332	37	4,835	1952
San Joaquin County	2,211	576	25.00	641	90	1,410	1951
Riverside County	1,725	212	12.00	478	44	7,179	1949
Solano County	725	218	30.00	264	80	827	1952
State of California	103,816	13,486	13.00	21,486	62	156,710	1949
Medical Examiner System							
New York City †	79,082	4,736	6.00	16,268	29	308	1950
City of Baltimore ‡	11,327	802	7.00	2,145	38	79	1950
State of Maryland ‡	22,871	1,200	5.00	4,358	27	12,327	1950
Milwaukee County, Wis.§	9,483	130	1.00	1,298	10	160	1952
State of Rhode Island ‖	8,248	71	0.01	2,141	3	1,248	1952

* From the individual annual reports published by each of the counties listed.
† Statistical Report of the Chief Medical Examiner, City of New York, 1950, and personal communications to the author.
‡ 12th Annual Report of the Department of Postmortem Examiners, State of Maryland, 1950.
§ Personal communication to the author from the Deputy Medical Examiner, Milwaukee County, Wisconsin.
‖ Personal communication to the author from the Chief Medical Examiner, State of Rhode Island.

Five-hundred consecutive cases that fell within the coroner's jurisdiction were reviewed. In 379, death occurred without medical attendance or the physician in attendance was unable to state the cause of death. In the remaining 121, a private or hospital physician was in attendance at the time of death, and he was sufficiently acquainted with the case to offer a final diagnosis. These were nonetheless coroner's cases because (under California law) the physician was not in attendance long enough, the death involved violence or injury, or some suspicious circumstance was apparent to the coroner. Of the 121 cases in which the physician gave the final diagnosis, that diagnosis was incorrect in 54 (45%) of the cases. In fact, in 35 of these 54 cases, the site of the condition causing the death was in an organ or organ system other than that designated by the physician. Examples of incorrect diagnosis would be when death is found at autopsy to be due to pulmonary embolism rather than to pneumonia or when death is due to a subdural hematoma rather than to a spontaneous cerebrovascular accident. Examples of incorrect organ or organ system diagnosis are when death is due to brain tumor instead of coronary occlusion or when death is due to hemoperitoneum following intra-abdominal injury rather than to perforated peptic ulcer.

It is recognized that antemortem studies in these cases are made under such trying circumstances that the errors in diagnosis are not unreasonable or in any way a reflection on the capabilities of the physician. The fact presents itself, however, that, if these same physicians had attempted to arrive at diagnoses without autopsy on the other 379 coroner's cases in question, it would seem certain that the percentage of incorrect diagnoses would be even greater than 45%, since there was usually no antemortem study and the physician would have only the history and an external inspection to rely on. It is doubtful that a medicolegal officer, even though a physician, is a more capable diagnostician than any other physician or that he can, merely by inspection and review of the history, reach correct diagnoses with a significantly smaller percentage of error.

In the light of the foregoing figures, any physician who establishes the cause of death in a medicolegal case, without an autopsy, runs a chance almost half of the time that his diagnosis is in error. Except that they contribute to erroneous vital statistics, the majority of such errors are of relatively little consequence in the ordinary course of events, and the mistakes are safely, although not properly, buried with the body. While the medicolegal officer's mind may rest free in the knowledge that his is the last word and that he is not likely to be questioned, this is false comfort. As long as he relies solely on his judgment of the history and the inspection of the body, he must realize that he will continue to establish the cause of death erroneously in a certain percentage of cases. Not until autopsies are performed in all of these medicolegal cases will he become fully aware of the importance of such thoroughness. Only then can he truly see that great numbers of these errors are not purely academic but that they reflect seriously in the lives and welfare of many persons. Such errors in diagnosis weigh heavily in criminal and legal considerations and can lead to grave mistakes in the administration of justice.

There have been many instances in which all the external evidence and the history gave every justification for presuming a natural death and in which the cause of death was evident from the antemortem signs and symptoms. But, by virtue of routine autopsy, the causes of death in these cases were found not to be natural; some were due to accidents and some to crimes. Often, the need for investigation or criminal prosecution was not recognized until after the autopsy. Had these cases not been discovered by routine autopsy, the errors would never have been noted and the truth would have been buried.

It should be apparent that any case doubtful enough to warrant a medicolegal investigation deserves an autopsy. Autopsy should always be done if there are legal grounds to authorize it. This view is held to assure that crimes or misadventure will not be overlooked and to make certain that anyone who may now or later be suspected of having perpetrated a crime will not be falsely convicted because of inadequate investigation. If the state assumes the right to judge and punish persons for crimes or negligence, it has a far greater obligation to insure that no one is falsely or unjustly punished. No trouble or effort is too great to assure this last point, and no one can be so wise that he unfailingly arrives at a proper conclusion simply by deduction or inspection.

TABLE 2.—*Cases Referred for Laboratory Tests**

	Number Coroner or Medical Examiner Cases †	Number Referred for Laboratory Tests	Per Cent Referred for Laboratory Tests
County or Private Laboratories			
San Francisco ‡	2,364	1,131	48
Los Angeles County ‡	7,539	2,387	31
Alameda County ‡	1,373	332	24
State of California ‡	21,468	4,129	17
State Laboratories			
New York City §	16,268	4,511	27
State of Maryland ‖	4,358	801	18
State of Rhode Island ¶	1,399	84	6

* *Laboratory tests include those for blood alcohol, poisons, blood typing, and so forth but do not include microscopic study of tissue sections.*

† Coroner or medical examiner cases are those in which the death certificate is signed by the medicolegal authority after he has established the cause of death.

‡ From the individual annual reports published by each of the counties listed.

§ Statistical Report of the State Medical Examiner, City of New York, 1950, and personal communications to the author.

‖ 12th Annual Report of the Department of Postmortem Examiners, State of Maryland, 1950.

¶ Personal communication from the Chief Medical Examiner, State of Rhode Island.

The basic and prime purpose of a medicolegal office is the determination of the true cause of all deaths and the assurance that justice is done. It is also safe to presume that the lower the autopsy rate, the greater the number of gross errors and, therefore, grave injustices and, indeed, the less likely is the office to achieve its prime purpose and objective. Figures on autopsy rates are readily available. While not previously done, they can and should be used as an indication of the proper and satisfactory functioning of medicolegal investigative systems because they offer clear evidence of relative merit.

USE OF LABORATORIES

It is frequently urged that a change to a centrally controlled, statewide system would increase the number of laboratory tests done by making the central state offices available to outlying communities.[5] To weigh this matter, let us examine and compare the extent of utilization of laboratory procedures in California (many of which are done in private laboratories throughout the state) with other jurisdictions using state-operated central laboratories.

By studying table 2, a proper analysis can be gained by comparing one city with another or one rural area with another, since land area served is a vital factor. One should note, therefore, the percentages in San Francisco and New York or, on the other hand, Los Angeles County and the State of Maryland.

It is generally taken for granted that a state-supported medicolegal laboratory is available without specific charge to any authorized public officer requesting its services. One presumes then that it would be very freely used, certainly more than if the public officers had to call on private laboratories on a fee basis. Interestingly enough, the California coroners' jurisdictions, in great part using private laboratory facilities on a fee or contract basis, have availed themselves of laboratory procedures oftener than the medical examiner jurisdictions that use state-supported laboratories. It need not be said, therefore, that a state-operated laboratory will, as a foregone conclusion, be used more frequently.

Similar studies in other states might be equally revealing. It is only after painstaking statistical analysis that an appropriate decision can be reached. Too often in these matters, conclusions have been drawn from generalizations rather than facts, and these conclusions have gained acceptance purely by virtue of repeated public utterance. A more reasonable approach would be to make a study and, thereafter, to support and encourage whichever system is found to actually employ scientific methods most frequently.

Volume of laboratory work is not, in itself, sufficient cause to justify it. There is, however, a relationship between the amount of laboratory work done and the number of positive findings. Table 3 shows the importance of adequate amounts of laboratory work in establishing the cause of death. It can be seen from the third and fifth columns of table 3 that, roughly, the higher the percentage of doubtful cases tested, the higher the percentage of correct causes of death.

It is interesting, for example, that in San Francisco deaths by barbiturate poisoning are approximately four times as frequent (per unit population) as in Maryland. There are no apparent factors such as population, racial differences, or variations in state hypnotic laws that would account for so wide a discrepancy. It will be noted, however, that in San Francisco tests for barbiturates were made approximately four times as often as in Maryland. In fact, there is a sufficiently close relationship between the percentage of cases tested and the number of positive findings that increasing volume of laboratory testing is to be favored.

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[5] Ford, R.: Medicolegal Investigation of Sudden and Unexplained Deaths, J. A. M. A. 145: 1027-1030 (April) 1951. Gradwohl, R. B. H.: Should the Office of Coroner Be Continued, Ann. West. Med. & Surg. 4: 491-494 (Sept.) 1950.

It is inherent in the nature of his work that a medicolegal authority be suspicious. This attitude of suspicion is a measure of his desire to do his work carefully and thoroughly. These suspicions, when once held, can best be dispelled and a proper finding made by use of appropriate scientific procedure as has been shown here. Thus, an index of the worth of a medicolegal investigative office or system may be determined, again, by an inquiry into the frequency of use of laboratory procedures in establishing causes of death. This has heretofore not been generally done.

AREAS INVOLVED

No state of any great size has undertaken a statewide medical examiner system. New York, with 26 years' experience, has confined its medical examiner system to metropolitan New York City, while the remainder of the state is on local option. Maryland has a statewide system wherein one sees that the autopsy rate in Baltimore is 37%, while in the remainder of the state it is 18%. The state of Maryland (12,000 square miles) is about one-half the size of San Bernardino County in California. If the more rural the area the fewer the autopsies, one might wonder how low the percentage would drop if the Maryland medical examiner system were applied to the 20,000 square miles of San Bernandino County or to the 157,000 square miles of California. The size of the area to be covered by a centrally dominated statewide system is indeed deserving of consideration. The mechanics and function of the coroner system appear to be better adapted to large land areas. This is evidenced by the finding that the autopsy rate in California is at least 2 times and as much as 20 times greater than in areas of medical examiner jurisdiction that cover smaller rural areas and on which statistics were available (table 1). A central controlling state agency, such as a medical examiner system, will not necessarily improve medicolegal investigation, particularly if large land areas are involved. It is quite likely, in fact, that such control would lead to deterioration. It would be worth while to speculate on the reasons.

The medical examiner system requires that investigation at the scene of death be made by a physician. In an area as large as California, for example, it is only with some difficulty that physicians are found who will travel over large counties to do the required autopsies, let alone go beforehand to the scene of every death occurring by violence or injury or under doubtful circumstances. Furthermore, if a physician goes to the scene of death to view the body and then orders an autopsy, he must wait for the body to be moved to some convenient place and then travel to that place, again over great distances, to perform the autopsy. It can be said, and the statistics support, that this tends to markedly increase the number of cases signed out on the basis of history and circumstances and without benefit of autopsy. This is not conducive to impartial scientific investigation into the causes of death.

The medical examiner laws generally direct that autopsies be done by certified pathologists, at least in the larger centers. This is indeed a commendable principle, but one should consider that, after passing statewide legislation enacting such a law (in itself no simple task), one might find the law impossible to fulfill. It would be well for any community contemplating such moves to inquire into the present need and, further, into the practicability of fulfilling the law once it was enacted. The results can be as surprising as they were under the California coroner system in which the following situation was found.

San Francisco has had a physician as coroner for 40 or more years, just as at present. Two of the autopsy surgeons are board certified, and the third is board eligible. The pathologist who reviews autopsy findings by gross and microscopic sections is also board certified. The toxicologist is a physician and has a Ph.D. in pharmacology. Five of the six physicians on the staff are engaged in teaching in their respective fields and in medicolegal courses at the local medical schools. In Los Angeles, where the coroner is a layman, autopsy surgeons are required to be graduates of approved medical schools, to have done an interneship, and to have had at least two years' training in the various fields of pathology or legal medicine. Marin County, across the bay from the two San Francisco medical schools, has a mortician as its coroner. Significantly, 92% of the cases for which he signs the death certificate have had the cause of death established by an autopsy done by his staff of two pathologists, both board certified. Alameda County, also across the bay from the medical schools, has a layman as coroner. He orders all autopsies and laboratory work to be done by certified pathologists. The situation is similar in many nearby counties.

TABLE 3.—*Comparison of Percentage of Deaths Found Due to Barbiturates*

	Coroner or Medical Examiner Cases	Cases Tested for Barbiturates	Cases Tested, %	Deaths Due to Barbiturates	Deaths Due to Barbiturates, %	Yr.
San Francisco............	2,361	161	7	67	2.8	1950
Los Angeles County.....	7,539	216	3	160	2.0	1952
New York City...........	16,268	812	5	216	1.3	1950
State of Maryland.......	4,358	75	2	25	0.6	1950

Whether or not these autopsy examinations are done by qualified pathologists seems to depend on whether such men are available. Coroners, whether physicians or laymen, obviously recognize the merit of employing qualified personnel. This is evidenced by the fact that coroners' judisdictions containing over one-half of California's population (approximately 12 million) now have all coroner's medical investigations carried out by certified pathologists. The question then arises as to whether legislation might not provide certified pathologists for the more rural areas. There are approximately 125 pathologists in the state; most of these are in the metropolitan areas, and many or most of them would not be interested in medicolegal autopsy work under any circumstance. It is obvious that there would not be enough pathologists to go around and that the quantity of work in any given rural area would not justify the presence of a pathologist. Thus, in these areas, the work would still be done by whichever physician agrees to do it. As has been shown in table 1, these physicians can continue to do the work far better than has been generally recognized or admitted, provided, of course, that they do not become burdened with an endless series of trying and ultimately useless trips to the scene of many deaths. Experience shows further that by and large the men in rural areas solicit aid and advice from more experienced men when they find it necessary or advisable in doing autopsies, and assistance seems to be willingly given.

PHYSICIANS AS INVESTIGATORS

Coroners generally have a staff of lay investigators who make the "at the scene" investigation into criminal and evidential aspects of the case. These men spend all of their time at this work; most of them make a career of it. As a result, their investigations are generally very patiently and painstakingly done, certainly more so than those made by physicians most of whom consider such investigation secondary to their prime interest and training, namely, medicine. While the medical examiners require that such investigation be made by a physician, it is not clear what part of a physician's training particularly qualifies him to investigate these criminal and evidential matters.

Furthermore, with no intent to dramatize, but yet to be frank and practical, the physician must be very rare who, as a required part of the "at the scene" investigation, would routinely slip his hands into the urine-stained and feces-stained clothing of dead persons in search of identification, personal effects, notes, or other evidence. He must be rarer still who would with regularity make a detailed and exacting search of the body and the premises in which was found a reeking, vermin-infested corpse, which may or may not be liquefying. These actually are not uncommon findings. In the eyes of most physicians, whether autopsy surgeons or not, these cases are unpleasant enough at the autopsy table, and they are not eager to go to the place of death to examine and inspect before a preliminary preparation of the body has been made. It is not suggested that there are no physicians who can and will do this work. While most physicians have, on occasion, faced and coped with situations such as just described, the considerable point arises as to whether they would make this a daily routine. Physicians who would be willing would be difficult, if not impossible, to find and keep at the job.

On the other hand, there is an adequate number of lay investigators whose need and pride in the position is sufficient enough to enable them to tolerate the more unpleasant aspects, however distasteful. Such thorough and painstaking investigation as described is essential, even under the most trying circumstances, if all the information available at the scene is to be found.

Some propose that investigating the criminal and evidential aspects of any case should be a police function, since it does not fall within the province of medicine. First, the average policeman would be unwilling or incapable of bringing himself to make an adequate examination in many cases. Second, he might see only two or three coroner's cases a year and thus be wholely unqualified. If the police are to assign one or more men to make all these investigations, then it would be better for them to work under the supervision of the coroner so that their work would be properly directed. In this case, they might as well be called investigators and be in the coroner's direct employ, as they already are. Above all, if one fully understands the purpose of the coroner's office, he can see that the coroner's investigation is not, and should not be, a police function.

CORONER'S INQUEST

A study of the laws relating to the duties and powers of the coroner indicates that he must make an independent investigation into the cause and circumstances of certain deaths, order necessary medical examinations, and then conduct an inquest. At the inquest, the testimony of the various witnesses and investigators is heard along with the medical opinions or conclusions drawn by the autopsy surgeons. From this the jury decides whether there is a suspicion of a crime connected with the death. If the jury finds reasonable cause to suspect that a crime has been committed and so states in its verdict, a warrant is issued for the person charged with the crime, if he is not already in custody, and he is then brought before a judge. (It should be understood that the verdict of a coroner's jury brings charges only; it is not a conviction or in any way a proof of guilt.)

These functions seem to duplicate quite closely the activities of the police investigation, the district attorney's presentation of the evidence to the grand jury, and the grand jury's indictment that brings the accused before a judge. Since the coroner also investigates and presents the evidence to a jury and the jury orders the accused to be brought before a judge, it should be apparent that those who wrote the laws intended that a lay body, composed of coroner and jurors, carry out this combined function as a means of checks and balances for the various law enforcement agencies, at least in the matter of major crimes. The coroner and coroner's jury serve as an auditor and give assurance of an investigation and ultimate prosecution of crimes within its jurisdiction. To be sure, this is not done with the legal exactness of the aforementioned groups, and quite appropriately the verdict of a coroner's jury does not bear the weight of that of a grand jury. Nonetheless, should either the police or public prosecutor wilfully or inadvertently fail to act or, for their own reasons, should they fail to bring charges and prosecute fully, an independent body (coroner and coroner's jury) will act in their stead and bring the case before the courts. This is no reflection on these agencies but is a customary procedure at all levels of government. To do away with the inquest would be to lose the continuing audit of these most important activities. This function is too valuable and necessary to be cast aside simply because it does not fall within the province of medicine, particularly since it takes but 5 to 10% of a coroner's time and accounts for an estimated 5 to 10% of the total office expenditure. Further, equally important public services contributed by the coroner's inquest are many and will be the subject of another paper.

It is unfortunate that the medical examiners have failed to recognize the purpose and valuable contribution of the coroner's inquest. They have done away with it principally because it does not fall within the realm of medicine and partly because of lack of understanding of its function in government.

Proponents of the medical examiner system have stated that "for the cause of death to be determined by a jury is ludicrous."[1b] From such reasoning, one can presume that all jury proceedings at which medical evidence is given must be equally ludicrous. This, however, is not true. Firstly, the coroner's jury does not determine the medical cause of death. Secondly, there is no reason why a coroner's jury, just as any other jury, after hearing the autopsy surgeon's opinion on the medical causes of death and then the testimony of coroner's investigators, inspectors, police, and lay witnesses, should not thereafter be capable of deciding, let us say, whether or not the death was caused by a particular suspect or perhaps by an automobile that was or was not driven negligently. They are, for example, fully capable, after appropriate testimony, of deciding whether a death was accidental or intentional. Many of these and similar decisions are of considerable social significance and certainly of grave importance to the persons and families concerned. The belief that only a physician can make these decisions is presumptuous, fallacious, and not at all in keeping with the well-accepted concepts of our judicial system. If the jury fails to comprehend the medical findings sufficiently to arrive at a reasonable decision, this reflects the inadequacy of the physician presenting the findings or his lack of fidelity to his duty. It by no means suggests that the principles of the system are at fault.

CORONER'S JURIES

Coroner's juries are as excellent and qualified as the coroner chooses to have them. In San Francisco, for example, jurors are obtained from large and small business firms by having employers designate persons from their staff for jury duty. Since each jury is impanelled for one morning only and since any one firm is called upon but once a year, the request for a capable, thinking person as a juror is always met. The juries represent a good cross section of the public made up of intelligent and interested men capable of reasonable decisions.

The verdicts of the jury are not and need not be in any way directed by the coroner. Presenting evidence and testimony impartially can be done in such manner that a body of reasonable men can arrive at a just and proper decision. Any departure from such procedure can only be the result of a lack of interest or integrity on the part of the particular coroner. This should not be construed as a failing of the system but of the coroner himself. This lack of interest does not appear prevalent in California nor necessarily to any greater extent than would be the case if all coroners were physicians. In any event, the failings that might be found in a coroner's inquests or juries should be treated as individual problems that certainly are amenable to correction. The complete discard of the inquest, as a solution to these relatively minor problems, seems a drastic and ill-advised step. However trite it may sound, we should not be so foolish as to cut off the head to cure the headache.

It is said that, "all the problems associated with the internal administration of a medical examiner's office are a direct heritage from the coroner system."[1b] This reminds one of the rationalizing mother who believes that surely all of her child's failings and inadequacies stem from the husband's side of the family and who happily attributes all the child's favorable qualities to herself. One should remember that the only essential difference between a good coroner's office and a good medical examiner's office is that, in the latter, physicians make the "at the scene" investigations and, also, inquest hearings are not held. Otherwise, the actual conduct of the two offices is similar. It is small wonder, then, that the problems of internal administration of the two offices are alike. And, most importantly, it is apparent that the change to the medical examiner system has not solved these problems. It is enough to say that untiring efforts are needed in both offices to eliminate these problems.

CORONER'S LAWS

The laws in California are complete and adequate. A careful comparison with laws governing the various medical examiner systems reveals no significant differences. The type of case and circumstances surrounding deaths that legally require investigation are virtually identical. In California, the coroner is free to decide in which cases autopsy shall be performed. Not all medical examiners enjoy this freedom to investigate impartially and independently; some must obtain permission to proceed from other law enforcement agencies. This very important principle of independence of action should be maintained to provide a medicolegal system of force and value.

PHYSICIAN OR LAYMAN AS CORONER

The question arises whether it should be required that all coroners be physicians. It is my opinion that such a requirement would be advisable. While the many lay coroners are doing a creditable job, a large proportion of the coroner's work, in addition to being supervisory, deals with medical matters. In most jurisdictions, it is best to have a common direction of medical, technical, and investigative personnel in order to integrate their various activities. This could most easily be done by someone trained in the medical sciences. While all "at the scene" investigation need not, and perhaps should not, be made by a physician, the work of the autopsy surgeon, toxicologist, pathologist, and technician is better understood by a physician and thus better integrated into the investigation. For these reasons, the work should be overseen by a coroner who is a physician.

It is often held that a lay coroner who is a good administrator can do an adequate job if he seeks and engages competent medical guidance. This is true, but, if one can find a physician who also is a good administrator, the approach is more direct and effective and, to be sure, more economical. It is mainly for these last reasons that a physician is recommended for the position of coroner.

Juries often require guidance on medical matters. While it is safe to say that the reading of a medical report will be comprehended by the jurors if set forth by the autopsy surgeon in appropriate language, it is a considerable advantage if the report is actually presented by a physician who can answer any questions or dispel any doubts as they arise in the minds of the jurors. Many cases heard at the inquest involve the testimony of physician witnesses who may have been in attendance before the death. It is important to have the questioning

CLINICAL NOTES

THROMBOCYTOPENIA INDUCED BY SODIUM PARA-AMINOSALICYLIC ACID

REPORT OF A CASE

Harold A. Wurzel, M.D.
and
Robert L. Mayock, M.D., Philadelphia

Thrombocytopenia has followed the administration of various drugs. Para-aminosalicylic acid has not heretofore been incriminated, and, therefore, it is of interest to record thrombocytopenia following its administration.

REPORT OF A CASE

An 18-year-old Negro girl was admitted to the medical service of the Hospital of the University of Pennsylvania on Feb. 5, 1952, with the symptoms and signs of tuberculous peritonitis of about six months' duration. There was no history of abnormal bleeding, and there was no family history of hemorrhagic tendency. At laparotomy performed on Feb. 8, 1952, ascites was present and tubercule-like lesions were seen scattered throughout the abdomen. Biopsy revealed pathological evidence of tuberculosis.

Pertinent laboratory findings included: hemoglobin level, 9.8 mg. per 100 cc.; leukocytes, 5,900 per cubic millimeter; differential count, normal; prothrombin time, 64% ± 20%; serum proteins, 7 gm. per 100 cc.; albumin, 2.7 gm. per 100 cc.; and globulin, 4.3 gm. per 100 cc. The Mantoux test was positive with 0.1 mg. of old tuberculin. Urinalysis, blood serology, blood urea nitrogen, fasting blood sugar, serum bilirubin, and a chest roentgenogram showed nothing abnormal.

Administration of streptomycin, 0.5 gm. every six hours intramuscularly, was started on the day of operation. After six days, the dose was reduced to 0.5 gm. every 12 hours. Two days later, administration of sodium *p*-aminosalicylic acid (PAS), 3 gm. orally every 6 hours, and procaine penicillin, 300,000 units intramuscularly every 12 hours, was begun. The immediate postoperative course was satisfactory, and the patient was afebrile by the seventh postoperative day.

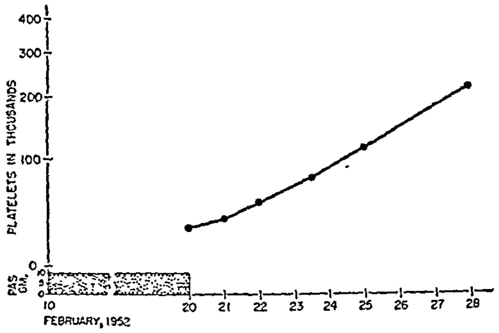

Fig. 1.—In patient with thrombocytopenia, platelet count rose after administration of streptomycin and sodium *p*-aminosalicylic acid (PAS) was discontinued.

On the tenth day after operation, the patient suddenly vomited large amounts of coffee-ground material along with blood clots. Studies of her clotting mechanism the next day gave the following values: bleeding time, 6 minutes, 30 seconds; prothrombin time, 45% ± 17%; AC globulin, 70%; prothrombin consumption, 16.6 seconds (poor utilization); Lee-White coagulation time, 19 minutes, 30 seconds; clot retraction, poor; and platelets, 30,000 and 38,000 per cubic millimeter (fig. 1). Marrow aspiration showed hypercellularity with marked increase in megakaryocytes, many of which were immature, and a normal and orderly maturation of the red and white blood cell precursors. At this time all medication was discontinued. Blood transfusions, a total of 1,500 cc., were given over the next few days with elevation of the hemoglobin level from 7.2 to 11.4 gm. per 100 cc. Gastrointestinal series showed no abnormality of the stomach or duodenum. By the 13th postoperative day, three days after discontinuance of all medication, the platelet count had risen to 76,000 per cubic millimeter. It was decided to resume the administration of streptomycin, and 0.5 gm. was given every 12 hours. No further bleeding occurred, and the platelet count continued to improve. On Feb. 27, the 17th postoperative day, the patient was discharged with instructions to receive streptomycin, 1 gm. intramuscularly twice weekly, and to continue bed rest at home.

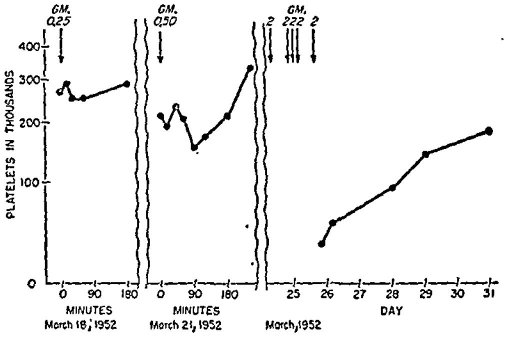

Fig. 2.—Single doses of 0.25 and 0.5 gm. of sodium *p*-aminosalicylic acid (PAS) did not cause permanent drop in number of platelets but five doses (2 gm. each) did. Platelet count rose when drug was discontinued.

Since the readministration of streptomycin failed to reproduce the thrombocytopenia, sodium *p*-aminosalicylic acid was considered the probable causative agent, and it was decided to re-call the patient for test doses of this drug. On March 18, 0.25 gm. of sodium *p*-aminosalicylic acid caused no permanent decrease in the number of platelets during a three hour period of observation. On March 21, 0.5 gm. was similarly found to have no significant effect. Reassured by these observations, it was decided to resume therapy with *p*-aminosalicylic acid. Accordingly, on March 24, a dosage of 2 gm. three times a day was instituted. On March 26, after the patient had been given a total of 10 gm. of sodium *p*-aminosalicylic acid, the platelet count had fallen to 38,000 per cubic millimeter (fig. 2). Marrow examination again revealed large numbers of megakaryocytes, many of which were immature. No abnormalities of granulopoiesis or erythropoiesis were noted. Therapy with *p*-aminosalicylic acid was again discontinued and the patient readmitted to the hospital. Five days later, the platelet count had risen to 192,000 per cubic millimeter. Menstruation, which had begun March 24, was more profuse than usual.

Since it was felt that sodium *p*-aminosalicylic acid constituted a valuable agent in the treatment of this patient, the test dose procedure was repeated during the second hospital stay. No platelet fall was noted after single doses of 1 gm. on April 1 or after 2 gm. given the following day. On April 3, a single dose of 4 gm. produced a fall in platelets from 318,000 to 60,000 per cubic millimeter (fig. 3) within 90 minutes. Administration of the drug was then permanently discontinued. The platelet count rose slowly and reached 280,000 per cubic millimeter on April 9, the day of discharge. Streptomycin, 1 gm. twice weekly intramuscularly, was continued. The patient has continued to improve, showing weight gain and absence of pain, fever, and ascites. Six platelet counts performed during the next four months were normal, and no further hematological difficulties have appeared.

This study was aided by the Elizabeth and Mario Peruzzi Fund for Pulmonary Research and the Eli Lilly Hematology Fund.

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COMMENT

The causative relationship of sodium *p*-aminosalicylic acid administration to the thrombocytopenia in this patient seems well established. Although streptomycin reportedly may cause thrombocytopenia,[1] there was no evidence in this case that it did. Thrombocytopenia occurred only when sodium *p*-aminosalicylic acid was given.

In drug-induced hypersensitivity reactions, the fall in platelet count usually occurs after very small amounts of the offending agent are given. In this patient, a therapeutic dose was required to give the effect. Despite this, we believe the reaction indicated hypersensitivity rather than a toxic depression of the bone marrow. Marrow aspirations showed increased numbers of megakaryocytes of an immature type, with no evidence of marrow destruction. This marrow picture, like that in idiopathic thrombocytopenic purpura, is suggestive of a maturation arrest mechanism affecting the megakaryocytes. The sudden fall in the number of platelets occurring within 90 minutes after an effective test dose of the drug (fig. 3) is believed to imply an additional peripheral mechanism as well. The peripheral mechanism, occurring with shock-like speed, is probably one of agglutination and destruction of platelets.

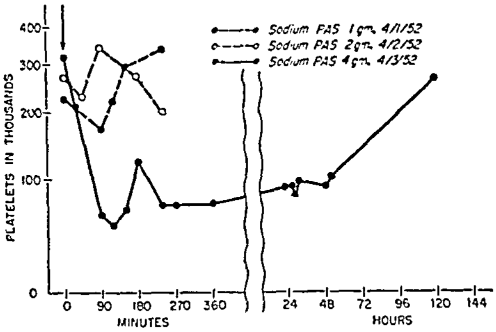

Fig. 3.—Single doses of 1 and 2 gm. of sodium *p*-aminosalicylic acid (PAS) did not cause permanent or major decrease in number of platelets, but a dose of 4 gm. caused platelet count to drop from 318,000 to 60,000 per cubic millimeter.

Nonthrombocytopenic purpura following *p*-aminosalicylic acid administration has been reported previously,[2] but this was probably anaphylactoid in nature since platelets and coagulation factors were normal in these patients. Bigelow and Desforges [3] have reported two cases of thrombocytopenic purpura associated with quinidine ingestion. In one of these cases, they were able to demonstrate a factor in the patient's platelet-poor plasma that caused agglutination of normal platelets in the presence of quinidine. They also report similar work done by Ackroyd using Sedormid ([2-isopropyl-4-pentenoyl] urea). It seems probable that a similar mechanism was operative in our patient.

Since hemoptysis is a common manifestation of pulmonary tuberculosis, it behooves the attending physician to determine whether hemoptysis or other hemorrhagic phenomena occurring in patients receiving *p*-aminosalicylic acid are the result of thrombocytopenia secondary to the drug therapy. Since streptomycin has also been found to cause thrombocytopenia,[1] differentiation may be difficult when these drugs are used in combination.

SUMMARY

Thrombocytopenia with hematemesis was observed in a patient after administration of sodium *p*-aminosalicylic acid (PAS). The causative relationship of the sodium *p*-aminosalicylic acid to the thrombocytopenia was established during two test periods. The reaction was apparently of the hypersensitive type, and it is suggested that the mechanism involved agglutination and destruction of the platelets together with maturation arrest of the megakaryocytes.

ADDENDUM

Since this paper was written, Hayes and Wise [4] have reported on a patient in whom thrombocytopenia followed the administration of *p*-aminosalicylic acid.

3400 Spruce St. (4) (Dr. Wurzel).

1. Wintrobe, M. M.: Clinical Hematology, ed. 3, Philadelphia, Lea and Febiger, 1951.
2. Luxardo, I. L.: Porpora emorragica ed acido paramino-salicilico, Ann. ital. dermat. sif. **5**: 189-201 (July-Aug.) 1950.
3. Bigelow, F. S., and Desforges, J. F.: Platelet Agglutination by an Abnormal Plasma Factor in Thrombocytopenic Purpura Associated with Quinidine Ingestion, Am. J. M. Sc. **224**: 274-280 (Sept.) 1952.
4. Hayes, R. H., and Wise, M.: Hypersensitivity Reaction to Oral Para-Aminosalicylic Acid, Dis. Chest **23**: 645-656 (June) 1953.

LIGATION OF HEPATIC ARTERY FOR PORTAL HYPERTENSION

CLINICAL APPLICATION OF EXPERIMENTAL OBSERVATIONS

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Good clinical results are the decisive factor in the acceptance of a novel procedure by the medical profession. However promising results of experiments may be, it is only the clinical application that proves their practical value. Inappropriate application or undeserved criticism can discredit new ideas easily. There is a tendency to overestimate the possibilities of new procedures, to apply them too widely, and then, on the basis of unsatisfactory results, to declare them as failures and to warn against their use.

The above ideas apply to ligation of the hepatic artery for portal hypertension, a procedure for which definite indications and contraindications have not yet been established. In the following report, we want to point out experimental observations that may be of clinical value and that may explain some of the clinical failures.

The liver obtains oxygen from both arterial and venous blood, and it has been claimed [1] that more than 50% of the oxygen used by the liver is supplied by portal blood. We have demonstrated, however, that in the dog arterial blood is the main source of oxygen for the liver.[2]

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This work was supported by Public Health Grant A 373. The Department is in part supported by the Michael Reese Research Foundation.

[1] Schwiegk, H.: Untersuchungen ueber die Leberdurchblutung und den Pfortaderkreislauf, Arch. exper. Path. u. Pharmakol. **168**: 693, 1932. Blalock, A., and Mason, M. F.: Observations on Bloodflow and Gaseous Metabolism of Liver of Unanesthetized Dogs, Am. J. Physiol. **117**: 328, 1936.

Arterial blood enters the liver through its hilum in branches of the hepatic artery and its collaterals and through the coronary ligaments in the hepatic branches of the phrenic arteries. This latter source of arterial blood, which was neglected in many previous investigations, shows marked anatomic variations. We have shown [3] that survival of the liver after complete excision of the hepatic artery depends on the presence of arterial blood supply through the phrenic arteries, in addition to portal blood. Fatal liver necrosis develops regularly when ligation of the hepatic branches of the phrenic arteries is added to excision of the hepatic artery.

This shows that the liver cannot survive on portal blood alone and that it needs some arterial blood. However, it is hazardous to rely on the hepatic branches of the phrenic arteries, which vary much in number and size in dogs as well as in man, for this arterial blood supply. Attempts by the surgeon to decrease the arterial blood supply of the liver should, therefore, stop short of complete occlusion of all arterial channels that enter through the porta hepatis. After ligature of the splenic, the common hepatic, and the left gastric arteries, arterial blood can enter the liver by reverse flow through the gastroduodenal branch of the superior mesenteric artery, if the arterial distribution conforms to anatomic normality. If subtotal gastrectomy is added to such a procedure, the hepatic arterial blood supply may be interrupted completely if the pancreaticoduodenal branches are interfered with in the process of mobilizing the duodenum. Even if the anastomosis of the hepatic artery with the superior mesenteric artery is not jeopardized, there is danger. In 5 out of 11 dogs in which the common hepatic artery was ligated and transected, we found that collateral arterial circulation to the liver did develop by reversed flow through the gastroduodenal or right gastric arteries. During these operations, active arterial bleeding from the peripheral stump of the hepatic artery suggested that retrograde arterial blood flow was present and would persist. The occurrence, however, of thrombosis, vasospasm, and anatomic variations apparently makes the establishment of such circulation uncertain and hazardous. If, in addition to the splenic and the left gastric arteries, the hepatic artery is ligated distal to the gastroduodenal artery, namely between the origin of the gastroduodenal artery and the hilum of the liver, the hepatic arterial blood supply through the hilum is interrupted completely, with the possible exception of overlooked collaterals. Of course, in all these situations the hepatic branches of the phrenic arteries still function, but their efficiency seems rather unpredictable. These facts may explain some of the unfavorable results of ligation of the hepatic arterial blood supply.

Experimentally, others [4] and we ourselves [2b] have been able to demonstrate that the liver survives practically complete occlusion of its arterial and venous blood supply, if this is performed in several stages. These observations should be of clinical value. It is apparently not advisable to attempt complete interruption of the hepatic arterial circulation in one stage. Ligation of the hepatic, the splenic, and the left gastric arteries should preferably be performed in several stages. This permits a study of the reaction of the liver to a limited diminution of its arterial blood supply, and it indicates its probable reaction to complete elimination of arterial circulation before it is too late. The liver also has time to become adjusted to a lower supply of oxygen, and it will survive even if no reverse flow occurs and even if the supply through the hepatic branches of the phrenic arteries happens to be completely insufficient.

Ligation of the hepatic artery lowers portal hypertension of Laennec's cirrhosis,[4] supposedly because intrahepatic arterioportal anastomoses increase portal pressure and interfere with portal blood flow.[5] This rationale of hepatic artery ligation points already to certain limitations. Wherever portal hypertension is not due to interference of the arterial circulation with the portal circulation, no beneficial effect can be expected from ligation of the hepatic artery.

Furthermore, we have demonstrated that ligation of the hepatic arterial blood supply is almost regularly fatal in the presence of impaired portal circulation that is produced by marked constriction of the portal vein.[2b] A similar condition must exist in patients with impaired portal circulation when the hepatic artery is ligated; therefore, only if it is certain that the portal circulation will be improved by ligation of the hepatic arterial blood supply, should such procedure be performed. If the portal circulation is not improved by ligation of the artery, we will deprive a liver with already impaired portal circulation, which is more dependent on its arterial blood than a normal liver, of part of its essential blood supply. It seems, therefore, urgent that systematic investigations be done to establish the type of portal obstruction, in addition to Laennec's cirrhosis, in which a beneficial effect on portal pressure and portal circulation is to be expected after ligation of the hepatic artery.

SUMMARY AND CONCLUSIONS

Under normal conditions, the liver obtains oxygen through the hepatic artery, the hepatic branches of the phrenic arteries, and the portal vein. Animal experiments show that, in addition to the portal blood, a definite minimal amount of arterial blood is necessary for survival of the liver. After ligation of the common hepatic, the splenic, and the left gastric arteries, the liver receives arterial blood through only the hepatic branches of the phrenic arteries and, by reverse flow, the gastroduodenal artery. The development of reversed circulation through the gastroduodenal artery is uncertain and unpredictable.

Combining the above procedure with gastrectomy jeopardizes the development of reversed flow in the gastroduodenal artery, and hepatic branches of the phrenic arteries are possibly the only source of arterial blood

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[2] (*a*) Popper, H. L.; Jefferson, N. C., and Necheles, H.: Interruption of All Arterial Blood Supply to Liver Not Compatible with Life; Experimental Study, Am. J. Surg. 84:429, 1952; (*b*) Survival of Dogs After Partial or Total Devascularization of Liver, Ann. Surg., to be published.

[3] Jefferson, N. C.; Proffitt, M. M., and Necheles, H.: Collateral Arterial Circulation to Liver of Dog, Surg. 31:5, 724, 1952. *Footnote* 2.

[4] Rappaport, A. M.: Experimental Ischemia of Liver and Hepatic Coma, in Transactions of 10th Liver Injury Conference, New York, J. Macy, Jr. Foundation, 1951, p. 146. Rappaport, A. M.; Borowy, F. J., and Lotto, W. N.: Experimental Hepatic Coma, Surgical Forum; Proceedings of Forum Session, Clinical Congress of American College of Surgeons, New York, September, 1952, Philadelphia, W. B. Saunders Company, 1953, p. 504.

[5] Herrick, F. C.: Experimental Study into Cause of Increased Portal Pressure in Portal Cirrhosis, J. Exper. Med., 9:93, 1907. McIndoe, A. H.: Vascular Lesions of Portal Cirrhosis, Arch. Path., 5:23 (Jan.) 1928. Dock, W.: Role of Increased Hepatic Arterial Flow in Portal Hypertension of Cirrhosis, Tr. A. Am. Physicians 57:302, 1942.

supply. Ligation of the splenic, the left gastric, and the hepatic arteries, the latter distal to the origin of the gastroduodenal artery, limits the supply of arterial blood to the liver to the phrenic arteries. Unfavorable results following these procedures may be due to inadequate development of the hepatic branches of the phrenic arteries and to variations in vascular anatomy and function of the hepatic artery and its branches.

Animal experiments show that the liver can be deprived almost completely of its blood supply if this is done in stages. This is not due to revascularization of the liver by collateral circulation but to the fact that the liver can adjust gradually to a drastically lowered blood suppy. Ligation of the hepatic arterial blood supply and its collaterals should possibly be done in stages. Systematic investigations should be undertaken to establish the types of intrahepatic portal obstruction, in addition to Laennec's cirrhosis, in which ligation of the hepatic artery will cause lowering of portal hypertension.

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BLEEDING ESOPHAGEAL VARICES WITHOUT OTHER SIGNS OF HYPERTENSION IN A CHILD

James Mithoefer, M.D., Cooperstown, N. Y.

There are instances in which a careful investigation fails to reveal the source of massive gastrointestinal hemorrhage. When there are secondary evidences of portal hypertension, one concludes that bleeding varices of the esophagus are the cause. The case presented here illustrates that varices of the esophageal veins may be present and may be the source of fatal hemorrhage in childhood without other signs of portal hypertension.

REPORT OF A CASE

This child was 2½ years old at the time of her first admission to the Children's Hospital, Cincinnati, on April 6, 1950, because of massive gastrointestinal hemorrhage. She had been born at term after an uncomplicated pregnancy, and her growth and development had been normal until diarrhea developed 10 months before this admission. After the child had had several watery stools a day for two weeks, her parents noticed that her stools became black and foul smelling and that she seemed pale and listless and sweated unduly. She was admitted to a hospital in another city where she received two blood transfusions and was discharged after a stay of three days. She apparently regained her normal health until three weeks later when tarry stools were again noticed as were pallor, weakness, and sweating. She was readmitted to the other hospital, more blood transfusions were given, and laparotomy was performed. The surgeon was unable to locate a source of bleeding. Shortly after her recovery from the operation, she was taken to a midwestern clinic where an extensive investigation failed to reveal a source of gastrointestinal bleeding. It is significant that there was no sign of bleeding during her stay at the clinic, that the liver was palpable 2 fingerbreadths below the right costal margin, and that the spleen was not palpable. It is also of interest that the roentgenologic examination of the gastrointestinal tract was reported as normal, but no specific mention was made of the esophagus.

The child was then entirely well until March, 1950, when chickenpox developed. Two days after the appearance of the exanthem, she began to pass black stools that became red and contained blood clots. She was admitted to another hospital where three transfusions were given, but further diagnostic studies were not carried out. On April 6, 1950, she complained that her stomach hurt and began to pass grossly bloody stools. After passing eight or nine such stools, she was brought to the Children's Hospital. While en route she vomited red blood. This was the first time hematemesis occurred.

Her family history and her history were irrelevant and noncontributory. Examination showed her to be an alert, cooperative child who did not appear chronically ill. Her weight was 26 lb. 4 oz. (10.5 kg.) and her height 33½ in. (85.09 cm.). Her pulse rate was 180 per minute, respiratory rate 28 per minute, and blood pressure 115/45 mm. Hg. There was no icterus. The skin showed no telangiectases, petechiae, or purpuric areas. Her head, including the mouth and pharynx, and her heart, lungs, and extremities were not significantly abnormal. The abdomen was soft, slightly convex, but not distended. There was a healed right rectus surgical scar. The smooth, nontender liver edge was at the level of the costal margins. The spleen was not palpable. Rectal examination revealed no abnormality within or outside the lumen.

Examination of the blood showed it contained 5 gm. of hemoglobin per 100 cc. and 1,710,000 erythrocytes per cubic millimeter, with 1.9% reticulocytes. There were 10,300 white blood cells per cubic millimeter, with a normal differential count and 340,000 platelets per cubic millimeter. Except for the presence of acetone, urinalysis was normal. The serum contained 32 mg. of nonprotein nitrogen per 100 cc.; its pH was 7.47; and it contained 23.8 mM. of carbon dioxide per liter; 108 mEq. of chloride per liter, 3.5 gm. of albumin per 100 cc., and 1.5 gm. of globulin per 100 cc. The prothrombin time was 23.4 seconds. The capillary bleeding time was 4 minutes and the clotting time 10 minutes as determined by the Lee-White two tube method. The tourniquet test showed four petechiae per square inch after five minutes.

Roentgenologic examination of the gastrointestinal tract after a barium meal showed that the wall of the esophagus was smooth, without evidence of varices. The stomach contained multiple filling defects that were thought to be blood clots, but one in the region of the duodenum had the appearance of a polyp on a long pedicle. There was no spasm or other evidence of ulcer in the stomach or duodenum. The passage of barium through the small bowel and colon was normal.

The investigation described above was carried out in the first 48 hours of the patient's hospital stay. During that time, vigorous rectal bleeding continued so that, after receiving a total of 1,050 cc. of blood intravenously, the child's hemoglobin level was still only 12 gm. per 100 cc. On the assumption that the filling defect in the region of the duodenum might be a polyp, it was decided to perform laparotomy; therefore, another 700 cc. of blood was given. At 2 a. m. on April 9, 1950, laparotomy was performed through a long right rectus incision. The entire gastrointestinal tract from the cardia of the stomach to the rectum was inspected and palpated, but no evidence of bleeding was found. The stomach was opened at the pylorus, and its interior and the interior of the first portion of the duodenum were palpated and inspected. The lower 7 cm. of the esophagus and of the remainder of the duodenum to the ligament of Treitz were normal to palpation. The liver and spleen were of normal size and consistency. No dilated veins of the portal system were seen; there was no excessive vascularity of the gastrosplenic or lienocolic ligaments. The extrahepatic biliary tract appeared and felt normal. The splenic vessels and the portal vein were not exposed, but the upper border of the pancreas and the hilum of the liver felt normal.

There were no more episodes of bleeding after operation, and the girl was sent home on April 26, 1950. She remained well and active until June 9, 1950, when measles developed and a large tarry stool was passed. She was taken to the contagious division of the Cincinnati General Hospital where, shortly after admission, she had a massive hematemesis and died.

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At autopsy, the esophagus was opened in situ. Its wall was of average thickness, and it was lined by longitudinally folded, whitish, glistening mucosa. The mucosa of the distal two-thirds of the esophagus contained three prominent, dilated, longitudinal tortuous veins. Along the course of one of these veins about 2 cm. from the cardia, there was a red plug of clotted blood in a perforation of the vein. Immediately above the cardia there were several puckered white scars overlying dilated veins. The liver weighed 390 gm. and the spleen 60 gm. The liver was of normal consistency and friability. The capsule of the spleen was slightly thickened and mottled with dark brown confluent foci of discoloration; its cut surface showed a pinkish, meaty parenchyma with accentuated trabecular markings. Less than the usual amount of pulp was obtained on scraping the surface. The parenchyma was mottled with confluent ovoid, dark brown, hemorrhagic foci. The splenic vein, as well as the portal vein and its other tributaries, was patent. Histological examination of the liver showed no abnormality. The spleen showed evidence of mild splenitis and recent passive congestion consistent with the presence of measles. The remainder of the examination revealed no significant abnormality.

COMMENT

Bleeding from esophageal varices is uncommon in children. In the records of the Columbia-Presbyterian Medical Center in New York between 1932 and 1952, there are 501 cases of which 36 were in children under the age of 14. The reports on the subject deal principally with patients who had other obvious manifestations of portal hypertension.[1] Review of 29 of the 36 cases from the Columbia-Presbyterian Medical Center shows that in each instance other evidences of portal hypertension were present. Whipple,[2] Rousselot,[3] Thompson,[4] and others have described the mechanism of formation of varices of the esophageal veins in cases in which obstruction near the termination of the portal system produces increased portal pressure.

There are a few reports of esophageal bleeding without portal hypertension in the literature. Friedman[5] has reported the case of a 3½-year-old boy who died after several massive gastrointestinal hemorrhages. Autopsy showed large varices in the esophagus and a grossly normal liver and spleen, although the latter had previously been enlarged on physical examination. The viscera were not examined microscopically. Nochimowski[6] reported two instances of death from bleeding esophageal varices in adults. In each case, the liver was reported to be quite healthy, and no cause of the varices could be found. Both of these authors expressed the opinion that varices of the esophageal veins are caused by a congenital defect. In support of this opinion, Nochimowski points out that varices do not develop in all persons with Laennec's cirrhosis and portal hypertension. He postulates that an underlying deficiency in the vein must be present before it will give way to increased intraluminal pressure. Further supporting evidence has been offered by Weinberg[7] who reviewed 1,189 consecutive autopsies in which 95 instances of esophageal varices were demonstrated; in only 23% was there associated liver disease. Furthermore, of 30 cases of Laennec's cirrhosis, varices were demonstrable in only 43%. Severe disease of the cardiorespiratory system was present in an additional 56 cases. In view of these data, Weinberg concluded that congenitally weak spots may exist in the esophageal veins and that, under the influence of portal hypertension, hypoxia, or other adverse conditions, such areas may dilate.

Those who have dealt surgically with portal hypertension recognize that secondary evidence of increased vascularity of the portal system may not be grossly apparent and that the only reliable test for its presence is direct measurement of pressure in the portal system. This measurement was not made in the case under discussion; therefore, it can not be said that the portal pressure was normal. The most that can be said is that no cause for portal hypertension was found and that esophageal varices constituted the only indirect sign of portal hypertension after death.

The correct diagnosis in the case described was not made because signs of portal hypertension were not present at operation, and because varices were not demonstrated by roentgenologic examination. Measurement of the portal pressure at the time of laparotomy might have been of help, although it must be realized that, in the presence of diminished effective blood volume, an elevated portal pressure may fall to normal or below. More attention should have been paid to the esophagus during roentgenologic examination, perhaps with the roentgenogram being made while the patient performed the Valsalva maneuver. Had there been any indication of the presence of varices, esophagoscopy should have been performed. Had the diagnosis been established, proper therapy could have been instituted. If the portal pressure had been found to be elevated, splenectomy and splenorenal shunt would have been performed. If no portal hypertension had existed, it would have been logical to resect the lower portion of the esophagus and perform esophagogastrostomy.

SUMMARY AND CONCLUSIONS

A case of fatal hemorrhage from varices of the esophageal veins without evidence of portal hypertension in a child is presented. The importance of considering varices of the esophagus as a cause of unexplained gastrointestinal bleeding is emphasized, since special diagnostic aids may be necessary to establish a diagnosis.

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COUNCIL ON FOODS AND NUTRITION

ACCEPTED FOODS

The following products have been accepted as conforming to the rules of the Council.

JAMES R. WILSON, M.D., *Secretary.*

Beech-Nut Packing Company, Canajoharie, New York.

Beech-Nut Junior Sweet Potatoes.

Ingredients: Sweet potatoes, salt, and water sufficient for preparation.

Analysis (submitted by manufacturer).—Total solids 20.56%, moisture 79.44%, ash 0.99%, fat (ether extract) 0.41%, protein (N × 6.25) 0.87%, crude fiber 0.64%, carbohydrate other than crude fiber (by difference) 17.65%.

Vitamins and Minerals	Per 100 Gm.
Thiamine	26 mcg.
Riboflavin	20 mcg.
Niacin	0.42 mg.
Ascorbic Acid	14.4 mg.
Crude Carotene	4.4 mg.
Vitamin A Equivalent	7333 I. U.
Calcium	21 mg.
Phosphorus	35 mg.
Iron (total)	0.50 mg.
Iron (available)	0.48 mg.
Copper	0.17 mg.

Calories.—0.82 per gram; 23.2 per ounce.

Use.—For use in the feeding of older infants and young children.

Swift and Company, Chicago.

Swift's Strained Egg Yolks for Babies.

Ingredients: Raw egg yolks, water, and salt.

Analysis (submitted by manufacturer).—Total solids 30.8%, moisture 69.2%, ash 1.4%, fat 18.7%, protein 10.4%, carbohydrate 0.3%, and salt 0.65%.

Vitamins and Minerals	Per 100 Gm.
Vitamin A	1,200 I. U.
Vitamin D	210 I. U.
Thiamine	0.06 mg.
Riboflavin	0.2 mg.
Niacin	0.1 mg.
Calcium	70 mg.
Phosphorus	270 mg.
Iron	2.6 mg.

Calories.—2.11 per gram; 59.8 per ounce.

Use.—For use in the feeding of infants and young children and in special diets.

Comstock Canning Corporation, Newark, N. Y.

Comstock Brand Dietetic Pack Diced Carrots.

This product consists of Red Cored Chantenay carrots packed in water without any added salt.

Analysis (submitted by manufacturer).—Total solids 7.03%, moisture 92.97%, fat extract 0.14%, protein 0.4%, crude fiber 0.6%, available carbohydrate 5.30%, sodium 14.4 mg./100 gm.

Calories.—0.27 per gram; 7.7 per ounce.

Use.—For use in low-sodium and other therapeutic diets.

Comstock Brand Dietetic Pack Cut Green Beans.

This product consists of Tendergreen variety beans packed in water without any added salt.

Analysis (submitted by manufacturer).—Total solids 4.43%, moisture 95.57%, fat extract 0.06%, protein 1.1%, crude fiber 0.7%, available carbohydrate 2.25%, sodium 0.3 mg./100 gm.

Calories.—0.17 per gram; 4.8 per ounce.

Use.—For use in low-sodium and other therapeutic diets.

Comstock Brand Dietetic Pack Whole Kernel Golden Sweet Corn.

This product consists of Tendermost variety sweet corn packed in water without any added salt.

Analysis (submitted by manufacturer).—Total solids 16.53%, moisture 83.47%, fat extract 0.28%, protein 2.5%, crude fiber 0.8%, available carbohydrate 12.6%, sodium 3.6 mg./100 gm.

Calories.—0.53 per gram; 15.0 per ounce.

Use.—For use in low-sodium and other therapeutic diets.

Gerber Products Company, Fremont, Mich.

Gerber's Junior Prunes.

Ingredients: Prunes with enough water added to prepare properly.

Analysis (submitted by manufacturer).—Total solids 25.94%; moisture 74.06%, ash 0.91%, fat (ether extract) 0.22%, protein (N × 6.25) 0.80%, crude fiber 0.89%, carbohydrates other than crude fiber (by difference) 23.12%.

Vitamins and Minerals	*Per 100 Gm.*
Vitamin A (carotene)	692.0 U. S. P. units
Thiamine	0.017 mg.
Riboflavin	0.129 mg.
Ascorbic Acid	4.935 mg.
Niacin	0.603 mg.
Calcium	27.3 mg.
Phosphorus	24.0 mg.
Iron	1.26 mg.

Calories.—0.97 per gram; 27.61 per ounce.

Use.—For use in the feeding of older infants and young children.

S. S. Pierce Company, Boston.

Overland Brand Dietetic Pack Peas and Carrots.

This product consists of the vegetables packed in water without any added salt.

Analysis (submitted by distributor).—Total solids 8.3%, moisture 91.7%, fat extract 0.16%, protein (N × 6.25) 1.95%, crude fiber 0.99%, available carbohydrates 3.88%, sodium 14.90 mg./100 gm.

Calories.—0.25 per gram; 7.1 per ounce.

Use.—For use in low-sodium and other therapeutic diets.

H. J. Heinz Company, Pittsburgh.

Heinz Strained Cream of Tuna.

Ingredients: Tuna fish (fillet), carrots, wheat flour, corn starch, cream, whole milk powder, onions, salt, and water.

Analysis (submitted by manufacturer).—Total solids 16.50%, moisture 83.50%, ash 0.81%, fat (acid hydrolysis) 2.44%, protein (N × 6.25) 3.69%, crude fiber 0.39%, total sugar as sucrose 1.07%, natural reducing sugar 0.79%, acidity (as acetic) 0.09%, starch 8.06%, and salt 0.48%.

Vitamins and Minerals	Per 100 Gm.
Vitamin A activity	490 I. U.
Thiamine	9.3 mcg.
Riboflavin	33.0 mcg.
Niacin	1.23 mg.
Calcium	40.0 mg.
Phosphorus	54.0 mg.
Iron	0.10 mg.
Copper	0.11 mg.

Calories.—0.73 per gram; 20.7 per ounce.

Use.—For use as a transition food for infants from milk to semiliquid foods.

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CORONER VERSUS MEDICAL EXAMINER

Elsewhere in this issue, Dr. Turkel, coroner of the city and county of San Francisco, has drawn certain interesting conclusions from a comparison of the statistical reports of the coroner's offices of several counties of California with those of the medical examiner's offices of several cities and states elsewhere in the United States. For several reasons he concludes that the work done in the coroner's office studied "surpasses in quality and amount that done in any other type of system on which statistics were available." One reason for this conclusion is that a higher percentage of autopsies was performed by the coroners than by the medical examiners. Another is that more specimens were referred for special laboratory examinations by the coroners than by the medical examiners. Still another is that as a result of such tests the coroners of San Francisco and Los Angeles discovered a higher incidence of death from barbiturate poisoning than did the medical examiners of New York City or the state of Maryland. It is gratifying to hear that, despite the handicap of laws that fail to require the coroner to be a physician and that do require that he must run for office on a party ticket if he wishes to be reelected, the offices in Los Angeles and San Francisco function as well as they apparently do according to the statistics compiled by Dr. Turkel.

It should be obvious that the name under which the medical investigation operates, whether it be coroner or medical examiner, has nothing to do with the effectiveness with which his official duties are discharged. In 1942 the committee of the American Medical Association to study the relationship of medicine and law reported that the foremost requirement for the continued existence of a competent coroner's or medical examiner's office is a law that requires first that the office holder be professionally competent and second that he have both the authority and the facilities for the conduct of such investigations as are required in the interests of public welfare. Although the selection of coroners under some form of the merit system would appear to give greater assurance of professional competence than their election by popular vote, it should not be assumed that either all appointed medical examiners are good or all elected coroners are bad.

In extolling the advantages of the coroner's office, Dr. Turkel points to the fact that the medical examiner does not have the authority to hold an inquest. Certainly inquests need to be, and are, held in certain categories of violent or unexplained deaths under both the coroner and the medical examiner systems. The coroner ordinarily initiates and presides over the inquest. Under the medical examiner system the medical examiner ordinarily requests a legally competent magistrate to hold an inquest and appears before the magistrate with whatever evidence he may have. If the coroner were a lawyer his competence to serve as a magistrate might be assumed. If he is a physician, as he should be, he probably serves the needs of justice better as witness than as a presiding magistrate.

Dr. Turkel's study is to be commended in that it indicates that much can be done to improve the operation of the office of county coroner short of replacing it by a state medical examiner system. The important thing is to move in the direction of improvement. Although Dr. Turkel has not submitted convincing evidence that it is better to keep the office in county politics than to put it under the merit system, he has shown that it is possible to do good work under great handicaps.

MEDICAL COLOR TELEVISION—STORY OF PROGRESS

The Seventh Clinical Meeting of the American Medical Association, in St. Louis, will witness a milestone in the history of medical color television when the color television unit of Smith, Kline & French Laboratories presents its 50th program of colorcasting for the medical profession. Those familiar with the history of medical color television will remember that it was at the 1949 meeting of the A.M.A. in Atlantic City where this firm's TV unit presented the first program of operations and clinics to be televised in color. Since then it has carried its services to 15 states, Canada, and France. Many "firsts" were recorded along the way. In 1951, the Canadian Medical Association was host at the first program of color television seen in Canada. From here, the unit went abroad to give Europe its first look at color TV in a program presented at the International Society of Surgeons meeting in Paris. In the first transcontinental color transmission, a coarctation was televised at the Los Angeles County Hospital and received in Chicago and New York.

Innovations in production and equipment have been introduced at almost every meeting, though many of these refinements are not obvious to the program viewers. The annual meeting of the A.M.A. in New York last summer saw the unveiling of what might be considered—from the viewpoint of the audience—the most striking additions to SKF equipment in years. The telecasts there were received on two 4½ by 6 foot screens, specially built by the Columbia Broadcasting System. These huge screens provide a picture 27 times larger than that seen on the 12-inch receivers used previously, rendering an image of great clarity. When the camera is focused on a surgical field, the view obtained by physicians in the audience is often better than that available to some members of the operating team. The dramatic character that the screens lend to surgical procedures was pointed up at a recent medical meeting when a mitral commissurotomy was being televised. The exposed heart filled almost the entire screen, and it was noticed that some persons in the audience were unconsciously moving their heads in time with the heartbeats. Another important addition to the equipment was the acquisition of a studio camera in 1951. Originally, the telecasting was done with but one surgical camera, employed for clinical presentations as well as operations. The physician conducting a clinical discussion was forced to adapt his presentation to the narrow confines of a camera designed primarily for use in an operating room. With the addition of the versatile studio camera, the variety of material used in clinical presentations has been greatly increased.

The production end of the telecasts has also undergone considerable change and improvement. Much of the responsibility for this progress can be attributed to the physicians participating in the programs. Whenever possible, they have utilized visual material in the preparation of their clinics. Through the development of production techniques, several very effective methods of presenting operations are now available to the surgeon. He can do a straight running narration as he operates, carry on a question and answer session with a member of his operating team, hold a round-table discussion with other surgeons watching the operation on a monitor located in the studio, or periodically switch to an assistant in the studio who can discuss and demonstrate clinical material pertinent to the operation.

Perhaps the greatest change of all is to be found in the motives of the persons attending the program—the audience itself. For the first few years after the initiation of color television, almost every medical meeting the SKF unit visited was seeing color television for the first time. Naturally, the sheer novelty of the medium was a strong factor in inducing the doctors to attend the telecasts. It was difficult to ascertain whether the intended purpose of the medium—that of supplementing the postgraduate teaching programs of the meetings—was successful. As it developed, the audiences did not get smaller when the element of novelty faded; rather they increased in size. This was gratifying testimony to the place medical color television had won in the estimation of physicians no longer impressed with its "newness."

One might ask just what advantages color television brings to medical meetings. Without going into detail, a few of color TV's contributions to medical education can be cited. Only through the eye of the camera can hundreds of persons be brought to within a few feet—or a few inches—of interesting visual material. In a matter of seconds, the camera can accommodate itself to objects as different in size as a minute lesion and an iron lung. On the lecture platform, it is often inconvenient for speakers to introduce patients or even other specialists into their presentations. With the TV camera, such introductions are easily handled; in fact, they are highly desirable. The doctor-participant can also illustrate graphically the points he wishes emphasized. This visual reinforcement gives presentations much more impact than mere verbal references to points. Television can shift scenes readily. Thus an orthopedist can be televised giving a clinical demonstration of osteogenic sarcoma and, a few minutes later, the same surgeon can be shown performing a resection and bone graft to alleviate this condition in a patient. Unlike films, the presentations are individualized and completely natural. Because they are unrehearsed, the programs in general and the operations in particular are subject to all the drama of the unexpected. If a surgeon encounters unforeseen difficulties, the picture is not blacked out and the hundreds of persons in the audience are given the privilege of watching a surgeon cope with an immediate problem. Finally, there is color. The sharp contrast between color and black-and-white in the demonstration of medical subject matter will be seen by physicians attending the St. Louis meeting. The engineers will, from time to time, switch the camera to black-and-white. The loss of definition, depth, and detail will be obvious, as will be the change in the richness of the picture. The all-important asset of color, in combination with the advantages already mentioned, gives color television its surpassing distinction as an instrument for medical teaching.

SANITATION OF CRUSHED ICE

One of the most interesting problems that have recently demanded attention is that of the sanitary quality of the crushed ice used for ice water and other iced drinks. Because water-borne diseases may easily be spread by contaminated ice, ice used in iced drinks or in direct contact with food should conform bacteriologically to the accepted standards for potable water. Recent investigation [1] has shown that crushed ice for these purposes is often heavily contaminated with coliform organisms. These organisms may be introduced into crushed ice in many ways, chief among which are the introduction of dust during freezing into the cake from which the crushed ice is made; contamination of the cake from the floors of freezing rooms, trucks, and restaurants; and contamination from chippers, crushed ice containers, or human hands during dispensing. Of these, handling during dispensing was found to be the most prolific source. In an effort to correct this situation, a university dining hall was selected for an experiment. A solution of sodium hypochlorite containing 2 ppm of available chlorine was added to the container of crushed ice so as to nearly cover the ice. As a result, the bacterial count was greatly reduced, and no coliform organisms were found in any of the samples taken. The best feature of this procedure was that no chlorine flavor was imparted to the ice water or iced drinks. This comparatively simple measure was so successful that it might well become standard practice in places where crushed ice is used in serving food or drinks.

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[1] Moore, E. W.; Brown, E. W., and Hall, E. M.: Sanitation of Crushed Ice for Iced Drinks, Am. J. Pub. Health 43: 1265-1269 (Oct.) 1953.

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MEDICAL NEWS

CALIFORNIA

Dr. Robson Named Acting Assistant Dean.—Dr. George B. Robson, associate clinical professor of medicine, Stanford University School of Medicine, San Francisco, has been named acting assistant dean of the school, succeeding Dr. William H. Northway, head of the division of physical medicine. Dr. Robson, who will remain in private medical practice in addition to his new duties as acting assistant dean, joined the medical faculty in 1937.

Annual Conference on Ophthalmology.—Stanford University School of Medicine, San Francisco, will present the annual postgraduate conference on ophthalmology, March 22-26, 1954. Registration (limited to 30) will be open to physicians who restrict their practice to the treatment of diseases of the eye or eye, ear, nose, and throat. Instructors will be Drs. A. Edward Maumenee, Dohrmann K. Pischel, Jerome W. Bettman, Max Fine, Earle H. McBain, and Arthur J. Jampolsky. Further information may be obtained from the Office of the Dean, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15.

CONNECTICUT

Meeting of Medicolegal Committee.—The first meeting of the recently formed conference committee of the Connecticut State Medical Society and the State Bar Association of Connecticut, Nov. 5, at the New Haven Lawn Club, was addressed by J. W. Holloway Jr., LL.B., Director of the A. M. A. Bureau of Legal Medicine and Legislation, who discussed the advantages and objectives of the conference type of committee organization.

Society News.—Dr. Thomas J. Danaher, Torrington, has been named chairman of the council of the Connecticut State Medical Society to succeed the late Dr. Joseph H. Howard, Bridgeport. Dr. Danaher, who is chairman of the professional policy committee and a director of Connecticut Medical Service, is also a past president of the society and of the Litchfield County Medical Association. He is attending surgeon at the Charlotte Hungerford Hospital, Torrington, a delegate from the state medical society to the American Medical Association, a director and past president of the Torrington Community Chest, and a director of the Torrington YMCA and the Diocesan Bureau of Social Service.

DISTRICT OF COLUMBIA

The Fourth Muscular Dystrophy Clinic.—The first muscular dystrophy clinic in Washington, D. C., the fourth in the United States, opened recently at Georgetown University Hospital. Dr. Tiffany Lawyer, assistant professor of neurology, is director of the clinic for the development of research in this field. Mr. Richard Woods, president, Washington chapter of the Muscular Dystrophy Association, formally opened the clinic and presented Sister Mary Antonella with a check to cover the expenditures for the first six months.

University News.—Dr. Hugh H. Hussey has been appointed head of the department of preventive medicine and public health at his alma mater, Georgetown University School of Medicine, Washington, D. C. He also becomes a member of the executive faculty of the medical school. Dr. Hussey, who interned in Georgetown University Hospital and served a fellowship in internal medicine there, was named instructor in clinical medicine at Georgetown in 1936, and in 1941 was raised to assistant professor. He is the senior consultant in medicine to Mount Alto Hospital, consultant in medicine at Glenn Dale Sanatorium, and vice-chairman of the Health Council for the Commissioners of the District of Columbia.

FLORIDA

Personal.—Dr. Fred H. Albee Jr., Orlando, has accepted an Annie C. Kane fellowship in orthopedic surgery at the New York Orthopaedic Dispensary and Hospital, Columbia-Presbyterian Medical Center. Dr. Albee will be away from his practice for one year.

Seminar in Cytodiagnosis.—A seminar will be conducted by Dr. J. Ernest Ayre, director of the Cancer Institute at Miami, Nov. 27, for physicians interested in a short course of instruction in modern techniques, methods, and procedures in the application of cytodiagnosis to cancer detection. Registration fee is $5.

Semiannual Cerebral Palsy Clinic.—Dr. Harriet E. Gillette, Atlanta, will conduct the semiannual cerebral palsy diagnostic and recommendation clinic at the Crippled Children's Society, Nov. 23-25 from 9 a. m. to 5 p. m. Dade County Medical Association members are invited to refer patients to this clinic and are asked to make their appointments through the society as soon as possible. Clinics are held under the auspices of the Florida Crippled Children's Commission.

Society News.—At its annual meeting the Heart Association of Greater Miami installed Dr. Milton S. Saslaw, Miami Beach, as president and named Dr. Morton M. Halpern, Miami, president-elect, Dr. Jack L. Wright, Miami, vice-president, and Dr. Maurice Rich, Miami Beach, secretary. Three grants for heart research and one grant toward the support of a medical social service worker at the National Children's Cardiac Home in Miami, totaling $11,372, were awarded.

GEORGIA

Fifty Year Awards.—The Medical Association of Georgia recently presented to Drs. Lloyd E. Wilson, Bowdon, and John E. Garner Sr., Thomaston, pins and certificates of distinction in recognition of 50 years of service.

Rabies in Man.—According to the U. S. Public Health Service Department of Health, Education, and Welfare, Leland E. Starr, D.V.M., Georgia Department of Public Health, has reported a case of rabies in an 11-year-old boy. About two or three weeks after being attacked by a wild fox, a pup had inflicted a mild abrasion on the boy's hand. The boy died on Sept. 8 with typical symptoms of rabies. His brain was not examined for the disease, nor were those of the dog or the fox. The history and symptoms of both animals were typical of rabies.

ILLINOIS

University News.—Northwestern University Medical School, Chicago, has named the following faculty members to hold the Wallace C. and Clara A. Abbott professorships for the academic year 1953-1954: Dr. Carl A. Dragstedt, Park Ridge, professor of pharmacology; Dr. Fred S. Grodins and Allen Lein, Ph.D., Evanston, professor of physiology and associate professor of physiology, respectively; Dr. Willard T. Hill, Highland Park, associate professor of pathology; and Dr. E. Albert Zeller, Wilmette, professor of biochemistry.——Dr. Richard E. Marcus, Winnetka, assistant professor of otolaryngology, University of Illinois College of Medicine, Chicago, has been made an associate professor at the university, where he is also director of the unit for speech and hearing rehabilitation. Dr. Jerome T. Paul, assistant professor of medicine at the university, has been promoted to associate professor.——Dr. Donald P. Morris, formerly professor of psychiatry,

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Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

Southwestern Medical School of the University of Texas, Dallas, has been appointed professor of psychiatry and mental health in the Student Health Service at the University of Illinois, Champaign-Urbana.

Chicago

Physicians' Philharmonic Society.—The embryonic Physicians' Philharmonic Society of Chicago recently met in the rehearsal hall of the Gamble Hinged Music Company, 312 S. Wabash Ave., for the first of a series of practice sessions. Among the physicians who have expressed interest in forming a permanent group are Drs. Emerson K. McVey, Henrietta M. Herbolsheimer, Will F. Lyon, Joseph G. Kepecs, Elisabeth Rybar, Anna E. Robinson, and Jacob W. Fischer, chairman. The members voted to enlarge the scope of the orchestra by inviting all members of the healing professions to join them.

Tribute to Rudolph Holmes.—The meeting of the Chicago Gynecological Society at the Knickerbocker Hotel, Nov. 20, opened with a tribute to the late Dr. Rudolph W. Holmes, by invitation delivered by Dr. Ralph E. Campbell, University of Wisconsin Medical School, Madison. Other presentations, all by invitation, were: "Follow-up on Pyelitis in Childhood, with Reference to Urinary Tract Disease During Pregnancy," by Dr. J. Donald Woodruff, Johns Hopkins University School of Medicine, Baltimore; "Circulatory Abnormalities in Pregnancy and Nonpregnancy States," by Dr. Edward A. Banner, Mayo Clinic, Rochester, Minn.; and "Nutritional Deficiencies as Casual Factors in Maternal and Fetal Mortality," by Dr. Robert McNair Mitchell, University of Pennsylvania School of Medicine, Philadelphia. An all-day clinical meeting including operative clinics and an obstetrical symposium was held at Passavant Memorial Hospital.

Personal.—Dr. John B. Hall Jr., director of the Cook County Department of Public Health, has been appointed clinical assistant professor of pediatrics at the University of Illinois College of Medicine.——Bankers Life and Casualty Company of Chicago has appointed Dr. Marvin C. Ziporyn, formerly assistant medical director of the Armour Laboratories, as medical director.——Dr. Paul R. Hawley, Chicago, director of the American College of Surgeons, was recently appointed by Governor Stratton as a member of the Illinois Board of Public Welfare Commissioners.——Dr. William S. Kroger, assistant professor of gynecology, Chicago Medical School, recently gave a lecture, entitled "Psychosomatic Aspects of Obstetrics and Gynecology," at Yale University School of Medicine, New Haven, Conn., Jewish Sanitarium and Hospital for Chronic Diseases, Brooklyn, Lenox Hill Hospital, American Society for Research in Experimental and Clinical Hypnosis, Payne Whitney Clinic, New York Hospital, Lying-In Hospital, Mount Sinai Hospital, and Sloane Hospital for Women, Columbia Medical Center, New York.——Dr. James A. Campbell, director of the medical service at Presbyterian Hospital in Chicago, has rejoined the faculty of the University of Illinois College of Medicine with the rank of professor of medicine. Dr. Campbell returned to Chicago from Albany, N. Y., where he served for two years as dean and professor of medicine at Albany Medical College.——Dr. Leonard Cardon, associate professor of medicine, Northwestern University Medical School, addressed the meeting of the 11th councilor medical district of Indiana, at Huntington, Sept. 16 on some practical considerations in the diagnosis and management of acute coronary occlusion.——Dr. Franklin C. McLean was one of 11 faculty members of the University of Chicago retired with an emeritus status at the close of the recent summer quarter. Dr. McLean will remain at the university to continue research on the physiology of bone, a project now being conducted on a Josiah Macy Jr. Foundation grant.

MINNESOTA

New Occupational Medicine Academy.—On Oct. 1 the Minnesota Academy of Occupational Medicine and Surgery was organized in Minneapolis, and the following officers were elected: president, Dr. Wilford E. Park; vice-president, Dr. John F. Shronts; secretary, Dr. Leslie W. Foker; treasurer, Dr. James R. Fox, all of Minneapolis; and recorder, Dr. Herman E. Drill, Hopkins. Executive board members are Drs. Edwin G. Benjamin and Leonard S. Arling, both of Minneapolis.

Research on Emergency Food Needs.—Minimum food needs in cases of emergency are being studied in a five year research program by the University of Minnesota Laboratory of Physiological Hygiene. Sponsored by the Quartermaster General and Surgeon General of the Army, these new studies are designed to help the Department of Defense plan for military emergencies. Nineteen soldiers from Ft. Lee, Va., have volunteered for rigid discipline and periods of hunger and discomfort in the first of a series of experiments, each lasting six to eight weeks. Circulation tests to be used will dovetail with the main long-term research of the laboratory on heart disease and aging of the blood vessels.

NEBRASKA

Memorial to Dr. Manning.—A public health scholarship fund memorializing the late Dr. Ernest T. Manning of Omaha has been established at the University of Nebraska. Income from the $4,000 fund will provide scholarships for undergraduate students in the university's college of medicine who plan to specialize in the field of public health. Dr. Manning was assistant professor of pathology at the college from 1909 to 1920. He then served in the Omaha Public Health Service and later as public health officer of Omaha city schools. During World War II, he was a part-time member of the university's medical faculty.

NEW JERSEY

Society News.—At the annual fall meeting of the New Jersey Orthopaedic Society in Long Branch, Dr. Henry H. Kessler, Newark, was elected president, Dr. John J. Flanagan, Newark, president-elect, Dr. William Kruger, Newark, secretary, and Dr. Harold T. Hansen, South Orange, treasurer.

Meeting of Chest Physicians.—The New Jersey chapter, American College of Chest Physicians, will meet at the Bonnie Burn Sanatorium, Scotch Plains, Nov. 24, 8:30 p. m. "Mediastinal Tumors" will be presented by Dr. Herbert C. Maier, director of surgery, Lenox Hill Hospital, New York, and discussed by Dr. George N. Sommer, thoracic surgeon, St. Francis and F. W. Donnelly Memorial hospitals, Trenton. A collation will follow.

Fiftieth Anniversary Issue.—The September number of the *Journal of the Medical Society of New Jersey*, the 50th anniversary issue, includes half-century reviews of medicine (Dr. George H. Lathrop, Morristown); surgery (Dr. David B. Allman, Atlantic City); maternal welfare (Dr. Hammell P. Shipps, Camden); otolaryngology (Dr. Henry B. Orton, Newark); pharmacology (Dr. Rowland D. Goodman, Trenton); public health (Dr. Daniel Bergsma, Trenton); and urology (Dr. Clarence R. O'Crowley, Newark); as well as the article, "The Military Role of New Jersey Physicians in the Past Fifty Years" by Dr. Henry A. Brodkin, Newark. Dr. Julius Gerendasy, Elizabeth, contributes an article on the history of the New Jersey Gastroenterological Society, whose 20th anniversary coincides with the journal's 50th.

NEW YORK

Postgraduate Course in Ophthalmology.—The department of ophthalmology of the State University of New York College of Medicine at Syracuse will present its fourth annual postgraduate course in ophthalmology at the Hotel Syracuse, Dec. 11-12. Guest lecturers include Drs. Alan C. Woods, Baltimore, Harold F. Falls, Ann Arbor, Mich., and Hunter H. Romaine and Franklin M. Foote, New York. The tuition fee ($25 payable to the State University of New York College of Medicine at Syracuse) covers tuition, daily luncheons, and dinner Friday night. The course will be limited to 60 members who will be accepted in the order in which applications accompanied by checks are received. Inquiries may be addressed to Dr. Harold H. Joy, 504 State Tower Building, Syracuse.

State Housing for the Handicapped.—Herman T. Stichman, the state housing commissioner, announces that a substantial number of apartments equipped to serve the needs of the physically handicapped (the aged and those orthopedically handicapped) are to be provided in state-aided public housing projects for persons of low income. "New York State has a $735 million slum clearance and public housing fund for families of low income, coupled with cash subsidies of $25 million annually," he said, "and the handicapped and aging are particularly entitled to its benefits." Special installations in state-aided housing projects for the aging include: bathtubs with seats, nonslip bathroom floors, no thresholds, electric instead of gas stoves, cabinets at lower levels, apartments on the sunny side, and extra heat. For those suffering from orthopedic handicaps the special installations will be based on experiments at the Rehabilitation Institute of New York University-Bellevue Medical Center. They include: ramps, living and bedrooms 10% larger than normal public housing standards, nonslip flooring, casement type windows with mechanical operators, high wash basins and kitchen sink counters to permit use by tenant in a wheelchair, electric ranges, and showers in addition to bathtubs.

New York City

Personal.—The American Medical Women's Association has presented a citation to Dr. Ada Chree Reid, retiring editor of the *Journal of the American Medical Women's Association* in appreciation of her outstanding service to the journal and to the advancement of the interests of the association.

Reiss Memorial Lecture.—Dr. Paul Klemperer, pathologist, Mount Sinai Hospital, will deliver the second Herman L. Reiss memorial lecture, "The Anatomic Concept in Pathology," before the New York Institute of Clinical Oral Pathology at the New York Academy of Medicine, Nov. 23, 8:30 p. m.

Course on Physical Therapy.—The Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center and the New York University school of education are again offering a four week course, "Advanced Physical Rehabilitation Methods for Physical Therapists" (Nov. 23-Dec. 18; Feb. 1-26, 1954; May 2-29), with four points of university credit. Tuition fee is $80; registration fee, $8. Qualified veterans may enroll under the provision of P. L. 346 or P. L. 16. The course, which will cover (1) severe disabilities and their rehabilitation, (2) skills and methods of functional activities, and (3) clinical experience, is open to certified physical therapists who have the approval of the curriculum director. Applications should be submitted to the director, Rehabilitation Courses for Physical Therapists, Institute of Physical Medicine and Rehabilitation, 325 E. 38 St., New York 16.

NORTH CAROLINA

Nuclear Reactor at State College.—Loading of fissionable material in the nation's first university-owned nuclear reactor began at North Carolina State College of Agriculture and Engineering, Raleigh, at 12:59 a. m., Sept. 5. The project was started in June, 1950, when the college, under contract to the Atomic Energy Commission, initiated the design and construction of a low-powered research reactor. The building to house the reactor was completed in May, 1953. One of the major purposes of the reactor will be to supply reactor experience to undergraduate and graduate students in nuclear engineering, a new curriculum initiated by the college in 1950. A program of research on the reactor itself is scheduled for the first year of its operation, after which the emphasis will shift to the use of radiations and radioactive isotopes produced by the reactor.

Death of Professor Bronfenbrenner.—Jacques J. Bronfenbrenner, Ph.D., D.P.H., research professor of microbiology and immunology, Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, died Aug. 13 of myocardial infarction. Dr. Bronfenbrenner, born Nov. 20, 1883, in Cherson, Russia, was an assistant at the Imperial University, Odessa, Russia, in 1905, and in 1908 and 1909 was an assistant at the Pasteur Institute, Paris, France. He came to the United States and was naturalized in 1913. From 1909 to 1913 he was a fellow and assistant at the Rockefeller Institute in New York (where he later was an associate fellow, 1923-1928); from 1913 to 1917 Dr. Bronfenbrenner was director of the research and diagnostic laboratories of Western Pennsylvania Hospital in Pittsburgh; and from 1917 to 1923 was assistant professor of preventive medicine and hygiene at Harvard University School of Medicine, Boston. Named head of the department of bacteriology and immunology at Washington University School of Medicine, St. Louis, in 1928, he held that post until his retirement in 1952, when he joined the Bowman Gray faculty. Dr. Bronfenbrenner, who received the Pasteur award of the Illinois Bacteriologists in 1950, served as president of the American Association of Immunologists from 1942 to 1946. A son, Dr. Jack Bronfenbrenner, is a physician in Benton Harbor, Mich.

OKLAHOMA

Lecture on Cancer.—Dr. J. Samuel Binkley, Oklahoma City, will address the Tulsa Academy of General Practice, Nov. 23, at Hotel Tulsa on indications for the early surgical treatment of cancer. All physicians are invited. Reservations for dinner, 6:30 p. m., may be made by calling 2-5904. The scientific program will be at 8 p. m.

Personal.—Dr. Hiram G. Campbell, Tecumseh, who at the age of 80 completed 50 years in the practice of medicine, was awarded a 50 year pin at a recent meeting of the Pottawatomie County Medical Society. Dr. Campbell is a former president of the Pottawatomie County Medical Society.——Dr. Othel J. Gee, Oklahoma City, has been elected National Commander of the Army and Navy Legion of Valor of the United States of America at the 63rd annual reunion in Lexington, Ky. Membership in the legion of valor is restricted to holders of the Congressional Medal of Honor, the Distinguished Service Cross, or the Navy Cross.——Dr. Edward C. Reifenstein Jr., Oklahoma City, has been appointed director of biological and therapeutic research for the Schering Corporation. For the past two and one-half years he has served as director of the Oklahoma Medical Research Institute and Hospital in Oklahoma City. Charles D. Kochakian, Ph.D., formerly associate director, has been appointed co-ordinator of research of the Oklahoma Medical Research Foundation, Oklahoma City, to replace Dr. Reifenstein.——Dr. Stewart G. Wolf Jr., professor of medicine, University of Oklahoma School of Medicine, Oklahoma City, has assumed, in addition to his regular duties, the responsibilities of supervisor of clinical activities in the Oklahoma Medical Research Hospital.

PENNSYLVANIA

Rabies in Bats.—According to the Department of Health, Education, and Welfare, U. S. Public Health Service, E. J. Witte, veterinarian, Pennsylvania Department of Health, reported that rabies infection in a bat has been confirmed by the State Bureau of Animal Industry. On Sept. 29 the bat attacked a woman living in the south central part of the state. The bat was captured, and its brain tissue showed suggestive signs of rabies, which were confirmed by animal inoculation. Studies were in progress to ascertain the extent of rabies in the area where the bat was caught.

Philadelphia

Hospital News.—The 67th annual banquet of the Association of Ex-Resident and Resident Physicians of the Philadelphia General Hospital will be held Dec. 1 in the Penn-Sheraton Hotel, 39th and Chestnut Sts. For reservations, address Dr. John D. Corbit Jr., 3717 Chestnut St., Philadelphia 4.

Philips Lecture.—Dr. Haven Emerson, emeritus professor of public health, Columbia University College of Physicians and Surgeons, New York, will discuss "Preventive Medicine and Public Health" at Roberts Hall, Haverford College, Nov. 24, 11 a. m. This is one of the lectures in the William Pyle Philips series, "New Frontiers in Medicine."

Pittsburgh

Narcotic Violation.—Dr. Abraham J. Ishlon, 1910 Carson St., pleaded guilty in the U. S. District Court of Pittsburgh to a charge of violating the Federal narcotic law. On Sept. 14 he received a sentence of two years on probation.

Lectures in Ophthalmology.—Special lectures in the basic science of ophthalmology will be given in evening sessions throughout the school term of the University of Pittsburgh School Medicine by the staff of the Eye, Ear, Nose and Throat Hospital. These lectures are free to physicians. The schedule may be obtained from Dr. Murray F. McCaslin, chief, eye service, Eye, Ear, Nose and Throat Hospital.

SOUTH DAKOTA

Fifty Year Club.—Dr. Robert J. Jackson, Rapid City, recently became the 18th South Dakota physician to receive membership in the South Dakota State Medical Association's 50 year club. Dr. Jackson served as county coroner from 1903 to 1923 and as mayor of Rapid City for two years.

University News.—Rubert S. Anderson, Ph.D., resigned Oct. 1 as professor of physiology and pharmacology, University of South Dakota School of Medical Sciences, Vermillion, to accept appointment at the Army Chemical Center, Bethesda, Md., where he will be on the medical laboratory staff as a civilian in research work. He will also teach graduate students from the University of Maryland School of Medicine and College of Physicians and Surgeons in Baltimore.

VIRGINIA

Dr. Ware Honored.—Dr. H. Hudnall Ware Jr., head of the department of obstetrics at the Medical College of Virginia, Richmond, was honored on Sept. 18 by a group of his former students on the 25th anniversary of his joining the college staff. At a dinner tendered Dr. and Mrs. Ware, a scholarship and student loan fund was announced in his honor.

Public Relations Conference.—The public relations committee of the Medical Society of Virginia will present a combination public relations and public information conference Nov. 24 at the Hotel John Marshall in Richmond. The morning will be devoted to the woman's auxiliary. The afternoon program will be of a public information nature, and the problems of the medically indigent and the chronically ill will be considered. Participating will be representatives from the League of Virginia Counties, Virginia Hospital Association, State Health Department, State Welfare Department, Virginia Council on Health and Medical Care, and other interested groups.

WEST VIRGINIA

Past Presidents in House of Delegates.—Under an amendment affecting the service of past presidents as members of the house of delegates, adopted at the annual meeting of the West Virginia State Medical Association in White Sulphur Springs, all living past presidents, and the incumbent, Dr. James S. Klumpp, Huntington, will continue to serve as members of the house of delegates as long as they live; but presidents elected in 1953 and for the years following will be limited to three years of service in the house (the year they serve as president and the two years following).

HAWAII

Personal.—Dr. Walter B. Quisenberry of the Department of Health, Territory of Hawaii, Honolulu, recently returned from the British Isles, where he attended the annual meeting of the British Medical Association in Cardiff, Wales, as the official AMA delegate. Dr. Quisenberry participated in a panel on cancer and the community.

Leprologist Wanted.—A medical director is needed for Kalaupapa Settlement, Molokai (salary, $8,800-$9,800 with perquisites). The following training and experience are required: (1) four years of experience as a physician, of which two years shall have involved treatment of Hansen's disease, and graduation from a medical school of recognized standing, including, or supplemented by, one year of internship in a recognized general hospital; or (2) any equivalent combination of experience and training. The physician must be licensed to practice medicine in the Territory of Hawaii. Address the Board of Health, Box 3378, Honolulu.

GENERAL

Multiple Sclerosis Grant.—A grant of $34,354 has been awarded to the National Multiple Sclerosis Society by the Kresge Foundation, in memory of the late Paul W. Voorhies, former president of the foundation. The grant will further the multiple sclerosis research project at the New York University-Bellevue Medical Center, already established by the society and to which it has allocated over $100,000.

Association of Medical Clinics.—At the annual meeting in Chicago the American Association of Medical Clinics installed Dr. Wayne Gordon, Billings Clinic, Billings, Mont., as president, named Dr. J. C. Thomas Rogers, Carle Hospital Clinic, Urbana, Ill., vice-president and president-elect, and reelected Dr. Arthur H. Griep, Welborn Clinic, Evansville, Ind., secretary-treasurer. The next annual meeting will be held in New Orleans.

Tuberculosis Achievement Awards.—The Variety Club-Will Rogers Hospital, Saranac Lake, N. Y., announces that an annual achievement awards program will be initiated as a stimulus in the fight against tuberculosis and other chest diseases. The first presentation of the annual awards will be made at the 20th annual meeting of the American College of Chest Physicians in San Francisco, June 17-20, 1954. Nominees for the awards will be selected by the college. A committee of judges will determine eligibility. Sculptured bronze plaques and cash honorarium will be awarded in each of the three fields: the greatest discovery in research, the most important medical contribution, and the highest achievement in surgery of chest diseases.

National Advisory Committee Meeting in St. Louis, Dec. 2.—The National Advisory Committee to the Selective Service System is meeting in St. Louis at the time of the A. M. A. Clinical Meeting. The committee would appreciate it if any chairman or member of a state or local committee who happens to be in attendance at the Clinical Meeting would meet with the national committee at 2 p. m., on Wednesday, Dec. 2. The place of the meeting will be announced later.

The advisory committee, 451 Indiana Ave., N.W., Washington 25, D. C., would appreciate hearing from those who expect to be present so that the necessary arrangements can be made for the proper-sized meeting room. It will not be possible for travel to be reimbursed by the government because of budgetary limitations. The committee hopes, however, that there will be a number of chairmen and committee members who will be present.

American Foundation for Allergic Diseases.—Dr. Horace S. Baldwin, New York, is president of the newly formed American Foundation for Allergic Diseases, which has headquarters at 525 Lexington Ave., at 49th St., New York. This voluntarily supported, nonprofit organization, was created after a fact-finding survey by members of the executive committee of the American Academy of Allergy and the board of regents of the American College of Allergists. The foundation will promote through public education an understanding of the problems of allergic diseases, inform and educate the medical profession in the problems of allergy, cooperate with medical institutions, hospitals, and other organizations in the development of facilities for the treatment and prevention of allergic diseases, and finance facilities for research in allergic diseases, including fellowships and residencies. The other officers of the foundation are: Dr. J. Warrick Thomas, Richmond, Va., vice-president; Dr. Bret Ratner, New York, secretary; and Dr. Theodore L. Squier, Milwaukee, treasurer.

Symposium on Glutathione.—A symposium on glutathione research, sponsored by the National Science Foundation and the Office of Naval Research, Washington, D. C., and administered by Columbia University, New York, is being held in Ridgefield, Conn., Nov. 20-21. The role of glutathione in enzyme actions, growth, and the creation of body energy and as a therapeutic agent against radiation damage and certain diseases, such as diabetes, will be considered. Five sessions have been scheduled to discuss organic chemistry of sulfhydryl compounds and glutathione, biosynthesis of glutathione and its role in peptide synthesis, methods for determination of glutathione, glutathione as a coenzyme, and relation of glutathione to metabolism and disease. Physicians directing the symposium include Drs. Arnold Lazarow, Cleveland, Ephraim Racker, New Haven, Conn., and Heinrich Waelsch, New York.

Red Cross Adopts Changes in First Aid Techniques.—Two major changes in first aid care, adopted on recommendations by the committee on surgery of the division of medical sciences, National Research Council, are announced in a new supplement to the American Red Cross First Aid Textbook. It is now recommended that a tourniquet be applied close to the wound, with unbroken skin between it and the wound; remain undisturbed until released by a physician; and be used only for severe life-threatening hemorrhage that cannot be controlled by other means. In frostbite or prolonged exposure to cold, rapid warming is recommended instead of the previously approved gradual thawing out of a frozen part in cool water or in a cool room. The victim is to be brought into a warm room as quickly as possible and placed in a tub of warm, not hot, water or wrapped in warm blankets. Rubbing of the frozen part is not recommended, but, after the part is rewarmed, the victim should be encouraged to exercise fingers and toes. The supplement includes the technique for the back-pressure-arm-lift method of artificial respiration, adopted by the Red Cross in 1951. Free copies of the supplement may be obtained through local Red Cross chapters.

Surgeons Meeting in Los Angeles.—At a regional meeting of the International College of Surgeons at the Ambassador Hotel, Los Angeles, Nov. 28-29, a panel discussion of diagnostic problems, surgical management, and preoperative and postoperative care of the acute abdomen will be held Saturday. Dr. Arnold S. Jackson, Madison, Wis., will preside at the afternoon session, when the presentations will include "Postgastrectomy Syndromes," "The Pathological Intrahepatic Gallbladder and Related Anomalies," "Considerations of Nonmalignant Skin Tumors," and "Dupuytren's Contracture." Sunday morning Dr. Joseph M. de los Reyes, Los Angeles, will preside. Presentation of "Total Gastrectomy for Cancer" and "Anesthesia for Chest and Transthoracic Abdominal Surgery" will be followed by a panel discussion, "Chest and Transthoracic Abdominal Surgery and Anesthesia." Sunday afternoon Dr. Henry W. Meyerding, Rochester, Minn., will preside. "Transposed Flaps in the Repair of Surface Defects," "Your Hearing Impairment," "Precancerous Lesions Encountered in Routine Anorectal Examination," "Abdominal Symptoms of Genitourinary Pathology," and "Tumors of the Neck" are scheduled. The meeting is open to the medical profession.

Cancer Grants.—A grant of $79,110 to Columbia University College of Physicians and Surgeons, New York, for six projects under the guidance of Dr. Alfred A. Gellhorn, director of the Institute of Cancer Research, was the principal allocation among $181,670 in September grants made to eight institutions in New York City and three states by the Damon Runyon Memorial Fund for Cancer Research. Fellowships totaling $24,400 were approved for six research scientists engaged in various projects of cancer study. The Memorial Center for Cancer and Allied Diseases was the recipient of three individual grants: (1) $22,000 for a project under the direction of Dr. James J. Nickson and John S. Laughlin, Ph.D., entitled "Studies to Evaluate the Role of High Energy Radiation in Cancer Patients"; (2) $9,500 for a new project, "Quantitative Analysis of the Cell by Interference Microscopy," undertaken by Dr. Robert C. Mellors; and (3) $10,000 to Dr. Olof H. Pearson to study "The Effects of Altered Hormonal Environment on the Growth of Carcinoma of the Breast in Women." University of Oregon Medical School, Portland, received $17,000 for a study to be carried on by Dr. Thomas B. Fitzpatrick, Dr. Aaron B. Lerner, and Howard S. Mason, Ph.D., entitled "Metabolism of Melanomas." Two new institutions are included in the allocations: Chicago Medical School, in the amount of $4,860 for a study "Metastatic Dissemination of Tumors Induced by Cortisone" and New Mexico Highlands University, Las Vegas, N. Mex., $4,800 for a projected study, entitled "Synthesis of Some Imidazo (c) Pyridines as Potential Purine Antagonists." The latest grants brought the total money distributed to $7,246,786.

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

1953 Clinical Meeting, St. Louis, Dec 1-4.

1954 Annual Meeting, San Francisco, June 21-25.

1954 Clinical Meeting, Miami, Florida, Nov. 30-Dec. 3.

1955 Annual Meeting, Atlantic City, N. J., June 6-10.

1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

American Academy of Dermatology and Syphilology, Palmer House, Chicago, Dec. 5-10. Dr. John E. Rauschkolb, P. O. Box 6565, Cleveland 1, Secretary.

American Academy of Obstetrics and Gynecology, Netherland Plaza Hotel, Cincinnati, Dec. 14-16. Dr. C. Paul Hodgkinson, 116 South Michigan Blvd., Chicago 3, Secretary.

American Federation for Clinical Research, Eastern Section, Amphitheater, Children's Medical Center, Boston, Jan. 4. Dr. Walter Judson, Evans Memorial Hospital, Boston, Chairman.

American Laryngological, Rhinological and Otological Society:

- Eastern Section, Waldorf-Astoria, New York, Jan. 8. Dr. Francis W. Davison, Danville, Pa., Chairman.
- Southern Section, Brown Hotel, Louisville, Ky., Jan. 16. Dr. Lester A. Brown, 490 Peachtree St., N.E., Atlanta 3, Ga., Chairman.

Association for Research in Nervous and Mental Diseases, Hotel Roosevelt, New York, Dec. 11-12. Dr. Clarence C. Hare, 710 West 168th St., New York 32, Secretary.

National Society for the Prevention of Blindness, New York, Dec. 18. Dr. Franklin M. Foote, 1790 Broadway, New York 19, Executive Director.

Radiological Society of North America, Palmer House, Chicago, Dec. 13-18. Dr. Donald S. Childs, 713 East Genesee St., Syracuse 2, N. Y., Secretary.

Regional Meetings, American College of Physicians:

- Eastern Pennsylvania, Philadelphia, Jan. 15. Dr. Thomas M. McMillan, 330 S. Ninth St., Philadelphia 7, Governor.
- Michigan, H. H. Rackham Auditorium, Ann Arbor, Dec. 5. Dr. H. Marvin Pollard, 1313 East Ann St., Ann Arbor, Governor.
- North Carolina, Chapel Hill, Dec. 3. Dr. Elbert L. Persons, Duke Hospital, Durham, Governor.

Southern Surgical Association, The Homestead, Hot Springs, Va., Dec. 8-10. Dr. John C. Burch, 2112 West End Ave., Nashville 5, Tenn., Secretary.

Western Surgical Association, The Drake, Chicago, Dec. 3-5. Dr. Michael Mason, 154 East Erie St., Chicago 11, Secretary.

FOREIGN

Association of Surgeons of Great Britain and Ireland, Leeds, England, May 13-15, 1954. Dr. Henry W. S. Wright, 45 Lincoln's Inn Fields, London W.C.2, England, Honorary Secretary.

British Medical Association, Glasgow, Scotland, July 1-9, 1954. Dr. A. MacRae, B.M.A. House, Tavistock Square, London, W.C.1, England, Secretary.

Canadian Medical Association, Vancouver, B. C., Canada, June 18-22, 1954. Dr. T. C. Routley, 135 St. Clair Ave. W., Toronto 5, Ont., Canada, General Secretary.

Conference of International Union Against Tuberculosis, Madrid, Spain, Sept. 26-Oct. 2, 1954. Secretariat, Escuela de Tisiologia, Ciudad Universitaria, Madrid, Spain.

Congress of International Association for the Prevention of Blindness, New York, N. Y., U. S. A., Sept. 12-17, 1954. Professor Franceschetti, 2 Avenue Mirmot, Geneva, Switzerland, Secretary-General.

Congress of International Society of Surgery, Paris, France, May 21-22, 1954. Dr. L. Dejardin, 141, rue Belliard, Brussels, Belgium, General Secretary.

International Cancer Congress, Sao Paulo, Brazil, July 23-29, 1954. Prof. A. Prudente, 171 rua Benjamin Constante, Sao Paulo, Brazil, President.

International Conference on Thrombosis and Embolism, Basle, Switzerland, July 15-19, 1954. Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, Switzerland, Hon. Secretary.

International Congress of Clinical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Dr. Robert A Moore, Washington University School of Medicine, St. Louis 10, Missouri, U. S. A., Chairman, Committee on Arrangements.

International Congress on Diseases of the Chest, Barcelona, Spain, Oct. 4-8, 1954. Mr. Murray Kornfeld, 112 East Chestnut St., Chicago 11, *Illinois, Executive Secretary.*

International Congress on Group Psychotherapy, Toronto, Ont., Canada, Aug. 12-14, 1954. Dr. J. L. Moreno, Room 327, 101 Park Ave., New York 17, N. Y., U. S. A., Director of Organizing Committee.

International Congress of Hematology, Paris, Sept. 6-11, 1954. Dr. Jean Bernard, 86 rue d'Assas, Paris 6ᵉ, France, Secretary.

International Congress of the History of Medicine, Rome and Salerno, Italy, Sept. 13-20, 1954. For information write: Segreteria XIV Congresso Internazionale di Storia della Medicina, Instituto di Storia della Medicine, Citta Universitaria, Rome, Italy.

International Congress of Hydroclimatism and Thalassotherapy, Dubrovnik, Yugoslavia, May 8-16, 1954. Prof. C. Plavsic, Zeleni Venac 1, Belgrade, Yugoslavia, Secretary General.

International Congress of Industrial Medicine, Naples, Italy, Sept. 13-19, 1954. Professor Scipione Caccuri, Director, Institute of Industrial Medicine Policlinico, Naples, Italy, Chairman, Organizing Committee.

International Congress of Internal Medicine, Stockholm, Sweden, Sept. 15-18, 1954. Professor Anders Kristenson, Karolinska Sjukhuset, Stockholm 60, Sweden, Secretary-General.

International Congress of International College of Surgeons, Sao Paulo, Brazil, April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake Shore Drive, Chicago. Illinois, U. S. A., Secretary-General.

International Congress on Mental Health, University of Toronto, Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write: Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

International Congress of Nutrition, Amsterdam, Netherlands, Sept. 14-18, 1954. For information write: Dr. M. van Eekelen, Centraal Instituut voor Voedingsonderzoek T.N.O., 61 Catharynesingel, Utrecht, Netherlands.

International Congress on Obstetrics and Gynecology, Geneva, Switzerland, July 26-31, 1954. Dr. H. de Watteville, Maternité Hôpital Cantonal, Geneva, Switzerland, President.

International Congress of Ophthalmology, University of Montreal and McGill University, Montreal, Canada, Sept. 10-11, 1954, and Waldorf-*Astoria, New York, N. Y., U. S. A., Sept. 12-17, 1954.* Dr. William L. Benedict, 100 First Avenue Building, Rochester, Minnesota, U. S. A., *Secretary-General.*

International Congress of Orthopedic Surgery and Traumatology, Berne, Switzerland, Aug. 30-Sept. 3, 1954. For information write: Professor M. Dubois, Isle-Hospital, Berne, Switzerland.

International Congress of Psychology, Montreal, Canada, June 7-12, 1954. For information write: Prof. H. S. Langfeld, International Union of Scientific Psychology, Eno Hall, Princeton University, Princeton, N. J., U. S. A.

International Congress for Psychotherapy, Zurich, Switzerland, July 21-24, 1954. Dr. H. K. Fierz, Theaterstrasse 12, Zurich 1, Switzerland, Secretary General.

International Gerontological Congress, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

International Poliomyelitis Congress, Rome, Italy, Sept. 6-10, 1954. Mr. Stanley E. Henwood, 120 Broadway, New York 5, N. Y., U. S. A., Executive Secretary.

International Society of Blood Transfusion, Paris, France, Sept. 12-19, 1954. For information write: Colonel Julliard, Societe Internationale de Transfusion Sanguine, 53 Boulevard Diderot, Paris 12ᵉ, France.

International Society for Cell Biology, Leiden, Netherlands, Sept. 2-9, 1954. Professor *Peter J. Gaillard,* University of Leiden, Leiden, Netherlands, Secretary.

International Society of Geographical Pathology, Washington, D. C., U. S. A., *Sept. 6-10, 1954.* Professor Fred C. Roulet, Hebelstrasse 24, Basle, Switzerland, Secretary-General.

Journees Medicales, Paris, France, April 21-25, 1954. For information write: Secretariat of the Journees, 12, rue Pierre-Geofroix, Colombes (Seine) France.

Latin American Congress of Otorhinolaryngology, Caracas, Venezuela, Feb. 21-25, 1954. Dr. Victorino Marquez Reveron, Centro, Medico, Caracas, Venezuela, Secretary-General.

Latin American Congress of Physical Medicine, Medellin, Columbia, South America, Feb. 25-20, 1954. Dr. Cassius Lopez de Victoria, 176 East 71st St., New York 21, N. Y., U. S. A., Executive Director.

Pan American Congress of Otorhinolaryngology and Bronchoesophagology, Mexico, D.F., Mexico, Feb. 28-March 4, 1954. Dr. Pedro Hernandez Gonzalo, 8 No. 358, Vedado, Havana, Cuba, General Secretary.

Pan American Medical Association, International Medical Cruise Congress, S. S. Nieuw Amsterdam, Jan. 6-22, 1954. Dr. Joseph J. Eller, 745 Fifth Avenue, New York 22, N. Y., U. S. A., Executive Director.

Pan-Pacific Surgical Congress, Honolulu, Hawaii, Oct. 7-18, 1954. Dr. F. J. Pinkerton, Suite 7, Young Bldg., Honolulu 13, Hawaii, Director General.

Persian Gulf Medical Society, Dhahran, Saudi Arabia, Dec. 7-8. Dr. *N. J. Conan Jr., Department of Internal Medicine,* Arabian American Oil Company, Dhahran, Saudi Arabia, Secretary.

Sectional Meeting, American College of Surgeons, London, England, *May 17-19, 1954. Dr. Michael L. Mason,* 40 East Erie St., Chicago 11, *Ill., U. S. A., Secretary.*

South American Congress of Angiology, Sao Paulo, Brazil, July 1954. For information write: Dr. Rubens Carlos Mayall, Rua Senador Vergueiro 73, Rio de Janeiro, Brazil, S. A.

World Congress of Cardiology, Washington, D. C., and Bethesda, Md., U. S. A., Sept. 12-17, 1954. Dr. L. W. Gorham, 44 East 23d St., New York 10, N. Y., U. S. A., Secretary-General.

World Congress of International Society for the Welfare of Cripples, The Hague, Netherlands, Sept. 13-17, 1954. For information write: D. C. Schaap, Centrale Vereniging, Apeldoorschweg 51, Arnhem, Netherlands.

World Federation of Occupational Therapists, Edinburgh, Scotland, August 17, 1954.

World Medical Association, Rome, Italy, Sept. 26-Oct. 2, 1954. Dr. Louis H. Bauer, 345 East 46th St., New York 17, N. Y., U. S. A., Secretary-General.

EXAMINATIONS AND LICENSURE

EXAMINING BOARDS IN SPECIALTIES

American Board of Anesthesiology: *Written.* Various Centers, July 16. Sec., Dr. Curtiss B. Hickox, 80 Seymour St., Hartford 15.

American Board of Neurological Surgery: *Oral.* Chicago, May or June. Final date for filing application is Jan. 15. Sec., Dr. Leonard T. Furlow, 600 S. Kingshighway, St. Louis 10.

American Board of Neurology and Psychiatry: *Psychiatry and Neurology.* Dec. 14-15. Applications no longer being accepted. Chicago, April 29-30. Final date for filing application is Feb. 1. Sec., Dr. David A. Boyd, Jr., 102-110 Second Ave., S.W., Rochester, Minn.

American Board of Obstetrics and Gynecology: Written examination and review of case histories for all candidates will be held in various cities of the United States, Canada, and military centers outside the continental United States on Feb. 5. Case abstracts are to be sent by the candidate to the Secretary as soon as possible after receiving notification of eligibility to the Part I written examination. *Oral.* Chicago, Oct. 1. Application for reexamination in Part II must be made prior to Feb. 1 of any year. Sec., Dr. Robert L. Faulkner, 2105 Adelbert Road, Cleveland 6.

American Board of Ophthalmology: *Written.* Various Centers, January 25-26, 1954. Final date for filing applications was July 1. *Practical.* San Francisco, June 25-29; New Orleans, Feb. 5-11, 1955. Final date for filing application for 1955 written examination is July 1. Sec., Dr. *Edwin B. Dunphy, 56 Ivie Road, Cape Cottage, Maine.*

American Board of Orthopaedic Surgery: *Part II.* Chicago, Jan. 20-22. Final date for filing application was August 15. Final date for filing application for Part I is Nov. 30. Sec., Dr. Harold A. Sofield, 122 S. Michigan Ave., Chicago 3.

American Board of Obstetrics: *Written.* Selected Places, Jan. 15. This is the only written examination which will be given during 1954. *Oral.* Washington, D. C., Feb. 19-21; Des Moines, March 19-21; New York City, May 1-3; San Francisco, June 25-27; Chicago, Oct. 8-10 and New Haven, December.

American Board of Radiology: *Oral. Radiology, Roentgenology, Diagnostic Roentgenology and Therapeutic Radiology.* Chicago, Dec. 6-11. Final date for filing application was July 1. Sec., Dr. B. R. Kirklin, 102-110 Second Ave. S.W., Rochester, Minn.

American Board of Urology: *Oral-clinical and pathology.* Chicago, Feb. 17-20. Sec., Dr. Harry Culver, 30 Westwood Road, Minneapolis 16.

DEATHS

Henry, Myron Ormell ⊕ Minneapolis; born in Minneapolis Dec. 28, 1893; University of Minnesota Medical School, Minneapolis, 1921; clinical assistant professor of surgery at his alma mater; specialist certified by the American Board of Orthopaedic Surgery; member of the American Orthopaedic Association, Clinical Orthopaedic Society of which he was secretary-treasurer, and the American Academy of Orthopaedic Surgeons, of which he was secretary; fellow of the American College of Surgeons; affiliated with Abbott and Northwestern hospitals; member of the visiting staffs, St. Barnabas and Asbury hospitals; consultant in orthopedic surgery, Glen Lake Sanatorium in Oak Terrace; died in Northwestern Hospital, Aug. 31, aged 60, of recurrent cerebral thrombosis and hypertensive cardiovascular disease.

Lawless, Ambrose Thomas, Syracuse, N. Y.; born in Marcellus Falls, N. Y., March 22, 1885; Syracuse University College of Medicine, 1910; clinical professor emeritus of surgery at his alma mater, now known as State University of New York College of Medicine at Syracuse; specialist certified by the American Board of Surgery; served during World War I; during World War II served on a county draft board, for which he was awarded a citation; past president of the Onondaga County Medical Society; senior attending surgeon and past president of the staff, St. Joseph's Hospital, where he died Sept. 13, aged 68, of gastric hemorrhage, cirrhosis of the liver, and uremia.

Galvin, Thomas Keough ⊕ Baltimore; born in Baltimore in 1891; College of Physicians and Surgeons, Baltimore, 1915; specialist certified by the American Board of Obstetrics and Gynecology; fellow of the American College of Surgeons; clinical professor of gynecology at the University of Maryland School of Medicine and College of Physicians and Surgeons; served during World War I; affiliated with Mercy and St. Joseph's hospitals as gynecologist-in-chief; gynecologist, Hospital for the Women of Maryland; on the visiting staffs of the Union Memorial and St. Agnes' hospitals; died Sept. 19, aged 61, of coronary thrombosis.

Engman, Martin Feeney ⊕ St. Louis; University of the City of New York Medical Department, 1891; professor emeritus of clinical dermatology at Washington University School of Medicine; an Associate Fellow of the American Medical Association; member of the American Dermatological Association, of which he was past president; specialist certified by the American Board of Dermatology and Syphilology; affiliated with Barnard Free Skin and Cancer Hospital, of which he was founder, St. Luke's Hospital, and Barnes Hospital; died Oct. 12, aged 85, of acute heart failure.

McPherson, Samuel Dace ⊕ Durham, N. C.; born April 20, 1873; University of Maryland School of Medicine, Baltimore, 1903; past president of the Durham-Orange Counties Medical Society; for many years chairman of the county board of health; specialist certified by the American Board of Otolaryngology; fellow of the American Academy of Ophthalmology and Otolaryngology; fellow of the American College of Surgeons; founder of the McPherson Hospital; on the honorary staff of the Lincoln Hospital and the Watts Hospital, where he died Sept. 12, aged 80, of arteriosclerosis.

Wells, Fred Lloyd ⊕ Des Moines, Iowa; Bellevue Hospital Medical College, New York, 1888; past president of the Association of Life Insurance Medical Directors; for many years associated with the National Travelers Casualty Company, the Interstate Assurance Company, and the Iowa State Traveling Men's Association, serving the latter two until the time of his death; from 1912 to 1936 medical director of the Equitable Life Insurance Company of Iowa; died in the Iowa Methodist Hospital Sept. 17, aged 85, of empyema of the gallbladder.

Ahrens, Harvey, Des Moines, Iowa; Illinois Medical College, Chicago, 1903; died June 15, aged 77, of acute circulatory failure.

Duncan, Melvin Dewey ⊕ Murfreesboro, Ark.; Kansas City (Mo.) College of Medicine and Surgery, 1926; formerly mayor; member of the board of education; affiliated with Howard County Memorial Hospital in Nashville; died Sept. 20, aged 55, of coronary thrombosis.

Dunning, Edgar Clarence, Highland Park, Mich.; Chicago Homeopathic Medical College, 1901; died Aug. 18, aged 82, of bronchopneumonia.

Early, William Leyton, Wolftown, Va.; Medical College of Virginia, Richmond, 1898; affiliated with University of Virginia Hospital, Charlottesville, where he died Sept. 25, aged 76, of lymphoblastoma.

Ewing, George Winburn ⊕ Peabody, Mass.; Baltimore University School of Medicine, 1899; on the staff of the Josiah B. Thomas Hospital; served on the staff of the North Shore Baby Hospital in Salem and the Essex County Tuberculosis Sanatorium in Middleton; died Sept. 22, aged 76, of cancer.

Fedde, Gabriel Martin Nathanael ⊕ Staten Island, N. Y.; Cornell University Medical College, New York, 1912; affiliated with Richmond Memorial Hospital; for many years a medical missionary to China; died Oct. 7, aged 69, of arteriosclerosis.

Flothow, Paul George ⊕ Seattle; University of Pennsylvania School of Medicine, Philadelphia, 1923; member of the Pacific Coast Surgical Association and the North Pacific Surgical Association; fellow of the American College of Surgeons; certified by the National Board of Medical Examiners; served during World War I; member of the staffs of the Providence, Swedish, Doctors, Seattle General, Children's Orthopedic, Maynard, and Columbus hospitals; died Sept. 21, aged 56, of coronary disease.

Foley, Harry Thomas ⊕ Pittsburgh; University of Pittsburgh School of Medicine, 1929; specialist certified by the American Board of Internal Medicine; fellow of the American College of Physicians; served during World War II; consulting cardiologist, Memorial Hospital, Monongahela; affiliated with Presbyterian and Woman's hospitals; died Sept. 20, aged 48, of coronary occlusion.

Folsom, Charles W., Conway, Miss. (licensed in Mississippi in 1906); died in Tallahassee, Fla., Aug. 4, aged 85, of uremia.

Frazier, Harold Langford ⊕ Chicago; Rush Medical College, Chicago, 1901; an Associate Fellow of the American Medical Association; on the staff of the Swedish Covenant Hospital, where he died Oct. 3, aged 75, of prostatic carcinoma.

Fry, John Lewis, Kalona, Iowa; Northwestern University Medical School, Chicago, 1911; member of the school board; on the staff of the Mercy Hospital in Iowa City; died in Columbus Junction Sept. 15, aged 71, of cerebral hemorrhage and arteriosclerosis.

Fulton, Gavin ⊕ Louisville, Ky.; University of Louisville (Ky.) Medical Department, 1894; served on the staffs of the Kosair Crippled Children Hospital, Children's Hospital, and Norton Memorial Infirmary, where he was past president of the staff and where he died Sept. 9, aged 80, of fracture of the hip received in a fall and cerebrovascular accident.

Gilliland, Caroline Jane ⊕ Sharon, Pa.; Woman's Medical College of Pennsylvania, Philadelphia, 1906; an Affiliate Fellow of the American Medical Association; served on the staff of the Sharon General Hospital; died in Mercer (Pa.) Sanitarium Sept. 2, aged 87, of senility.

Gilmore, Lewis Daniel, Pittsfield, N. H.; Tufts College Medical School, Boston, 1913; died Aug. 21, aged 62, of coronary thrombosis.

⊕ Indicates Member of the American Medical Association.

Hagood, John W. ⊕ Evergreen, Ala.; Medical College of Alabama, Mobile, 1898; died July 15, aged 78, of cerebral hemorrhage, hypertension, and arteriosclerosis.

Hatfield, Richard Henry ⊕ Brooklyn; Long Island College Hospital, Brooklyn, 1902; veteran of the Spanish-American War; affiliated with Prospect Heights Hospital for many years; died in Dumont, N. J., Sept. 21, aged 74, of coronary thrombosis.

Heilesen, William Edward, Iroquois, S. D.; University of Nebraska College of Medicine, Omaha, 1929; died in Prescott, Wis., June 13, aged 51.

Higgins, Martin Andrew, Rye, N. H.; Baltimore Medical College, 1907; died Aug. 18, aged 69, of acute coronary occlusion.

Highsmith, Luther Byrl, Flat Rock, Ill.; Loyola University School of Medicine, Chicago, 1916; died in Lawrence County Memorial Hospital in Lawrenceville, Oct. 6, aged 66, of meningioma and phlebothrombosis of the left main pulmonary artery.

Hoitt, George Barnard ⊕ Manchester, N. H.; Dartmouth Medical School, Hanover, N. H., 1899; died Sept. 14, aged 83, of arteriosclerosis.

Isaacson, Barney, New York City; University and Bellevue Hospital Medical College, New York, 1921; served on the staff of the Bronx Hospital; died Aug. 28, aged 56, of cerebral hemorrhage.

James, Maurice Clayton ⊕ Columbus, Neb.; Jefferson Medical College of Philadelphia, 1914; fellow of the International College of Surgeons; past president of the Platte County Medical Society; served during World War I; affiliated with St. Mary and Lutheran hospitals; died Sept. 11, aged 69, of carcinoma of the stomach.

Kenney, Stephen A. ⊕ Valley Falls, R. I.; College of Physicians and Surgeons, Baltimore, 1899; an Associate Fellow of the American Medical Association; past president of the Pawtucket Medical Association; for many years health officer for the town of Cumberland; died Sept. 14, aged 77, of cerebral arteriosclerosis.

Kirk, Marion Singleton, Hagood, S. C.; Medical College of the State of South Carolina, Charleston, 1895; died Sept. 13, aged 83, of coronary thrombosis.

Klopstock, Erich, Forest Hills, N. Y.; Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin, Germany, 1922; died May 29, aged 55.

Kolb, Thomas Victor ⊕ Litchfield, Ohio; Ohio State University College of Medicine, Columbus, 1934; member of the American Academy of General Practice; served during World War II; affiliated with Lodi (Ohio) Community Hospital, where he died Sept. 20, aged 49, of subarachnoid hemorrhage.

Koons, Charles Edward ⊕ Creal Springs, Ill.; St. Louis University School of Medicine, 1904; died in Van Buren, Mo., Aug. 9, aged 74.

Kretlow, Fred A. ⊕ Milwaukee; Marquette University School of Medicine, Milwaukee, 1924; served during World War II; on the staff of the Misericordia Hospital for many years; died in Columbus Hospital Sept. 20, aged 54, of coronary thrombosis.

Latz, Benno Ernst, New York City; Christian-Albrechts-Universität Medizinische Fakultät, Kiel, Germany, 1903; died Oct. 2, aged 75, of coronary thrombosis.

Lauder, Clark Hays ⊕ Monrovia, Calif.; State University of Iowa College of Medicine, Iowa City, 1909; member of the Pacific Coast Oto-Ophthalmological Society; died Sept. 29, aged 69, of coronary thrombosis.

Lawson, Sidney B. ⊕ Logan, W. Va.; Baltimore Medical College, 1894; for many years member of the Logan County Court; at one time mayor of Williamson; co-founder of the Hatfield-Lawson Hospital; past president and for many years director of the old First National Bank of Logan; died in Delray Beach, Fla., Oct. 9, aged 86, of asthma and heart disease.

Lazarus, George Fred, Mattituck, N. Y.; Hahnemann Medical College and Hospital of Philadelphia, 1894; on the staffs of the Carson Peck Memorial and Prospect Heights hospitals in Brooklyn; died Oct. 4, aged 84, of a heart attack.

Lewis, Andrew Llewellyn ⊕ Sumner, Mo.; Marion-Sims College of Medicine, St. Louis, 1898; an Associate Fellow of the American Medical Association; died in Brookfield Aug. 25, aged 86, of uremia, following fracture of right hip.

Lindsay, Harry Clubb Lodge ⊕ Pasadena, Calif.; Western University Faculty of Medicine, London, Ontario, Canada, 1909; member of the American Academy of Dermatology and Syphilology; affiliated with St. Luke and Huntington Memorial hospitals; died Sept. 9, aged 70, of arteriosclerosis.

McClure, William Charles ⊕ Oklahoma City, Okla.; University of Oklahoma School of Medicine, 1936; assistant professor of medicine at his alma mater; during World War II served with the marines in the Pacific, earning the Bronze Star for bravery under enemy fire and was awarded the Purple Heart; affiliated with St. Anthony Hospital; died in Panhandle, Texas, Sept. 24, aged 44, of injuries received in an automobile accident.

McDevitt, Bernard J. ⊕ Mount Carmel, Pa.; Temple University School of Medicine, Philadelphia, 1910; past president of the Northumberland County Medical Society; died Sept. 16, aged 84, of arteriosclerosis.

McDowell, James Fredrick ⊕ Birmingham, Ala.; University of Pennsylvania School of Medicine, Philadelphia, 1934; specialist certified by the American Board of Obstetrics and Gynecology; fellow of the American College of Surgeons; served during World War II; assistant professor of obstetrics at the Medical College of Alabama; affiliated with Jefferson-Hillman Hospital, where he died Oct. 4, aged 43, of acute myocardial infarction and coronary sclerosis.

McManus, James William ⊕ Brooklyn; Columbia University College of Physicians and Surgeons, New York, 1927; past president of the Brooklyn Urological Society; served during World War II; affiliated with Coney Island, St. Catherine's, and Caledonian hospitals and the Midwood Hospital, where he died Sept. 23, aged 51, of coronary thrombosis.

MacVeany, Arthur Patchen ⊕ Miami, Fla.; Columbia University College of Physicians and Surgeons, New York, 1927; certified by the National Board of Medical Examiners; died Sept. 22, aged 57, of acute myocardial infarction and arteriosclerosis.

Magargee, George W., Medina, Ohio; Western Reserve University Medical Department, Cleveland, 1904; died Sept. 30, aged 76.

Marcus, Daniel B. ⊕ Detroit; Wayne University College of Medicine, Detroit, 1932; affiliated with the Grace Hospital, where he died Sept. 26, aged 45, of uremia.

Markel, James Clyde ⊕ Pittsburgh; University of Pennsylvania Department of Medicine, Philadelphia, 1904; specialist certified by the American Board of Ophthalmology; member of the American Academy of Ophthalmology and Otolaryngology; fellow of the American College of Surgeons; affiliated with Southside and Eye and Ear hospitals; died Oct. 1, aged 75, of cancer of the colon.

Mercer, William F., Richmond, Va.; Medical College of Virginia, Richmond, 1882; formerly on the faculty of his alma mater; past president of the Richmond Academy of Medicine; died Sept. 4, aged 91.

Miller, John Hume, Philadelphia; Jefferson Medical College of Philadelphia, 1903; died in Charleston, S. C., Sept. 16, aged 76.

Moore, Joseph G. ⊕ Birmingham, Ala.; Birmingham Medical College, 1911; died July 20, aged 65, of acute coronary thrombosis.

Murphy, Frank Augustine ⊕ Taunton, Mass.; Tufts College Medical School, Boston, 1902; served during World War I; for many years school physician of Taunton; died Aug. 24, aged 76.

Murrell, Charles Milton ⊕ Sherrard, Ill.; Hospital College of Medicine, Louisville, Ky., 1903; served during World War I; affiliated with St. Anthony's Hospital in Rock Island, Mercer County Hospital in Aledo, and Moline Public Hospital in Moline, where he died Sept. 28, aged 76, of congestive heart failure.

Nash, William Harmon ⊕ Shelbyville, Ky.; University of Louisville Medical Department, 1912; served in France during World War I; on the staff of the King's Daughters' Home for Incurables; for many years affiliated with Old Masons Home; died Sept. 14, aged 65, of coronary occlusion and tuberculosis of the left ankle.

Nichols, David C., Stamps, Ark.; Gate City Medical College, Dallas, Texas, 1904; served as mayor; died Sept. 8, aged 88, of heart failure.

Norman, J. Standing, Gastonia, N. C.; University of Maryland School of Medicine, Baltimore, 1909; affiliated with Gaston Memorial and Gaston County Negro hospitals; died Oct. 6, aged 76, of carcinomatosis.

O'Dell, Lester Ely ⊕ Chicago; the Hahnemann Medical College and Hospital, Chicago, 1906; died in the Presbyterian Hospital Oct. 13, aged 72, of myocardial infarction and coronary heart disease.

Orr, William Law, Matthews, N. C.; North Carolina Medical College, Charlotte, 1914; died in the Presbyterian Hospital, Charlotte, Aug. 9, aged 63, of arteriosclerotic cardiovascular disease.

Ortman, John Wessel, St. Paul; Creighton University School of Medicine, Omaha, 1924; died in the Ancker Hospital Aug. 9, aged 57, of cerebral hemorrhage and hypertension.

Papay, Thomas A., Altoona, Pa.; Georgetown University School of Medicine, Washington, D. C., 1952; interned at Altoona Hospital; killed July 30, aged 32, when his car plunged over an embankment near Altoona.

Parker, Merrill Olmsted ⊕ Auburn, N. Y.; Syracuse University College of Medicine, 1919; specialist certified by the American Board of Psychiatry and Neurology; member of the American Psychiatric Association; served during World Wars I and II; formerly on the staff of the St. Lawrence State Hospital in Ogdensburg; on the consulting staff of the Willard (N. Y.) State Hospital; affiliated with the Mercy Hospital and the Auburn Memorial Hospital, where he died Sept. 10, aged 64, of coronary disease.

Pavlo, Samuel George ⊕ Malden, Mass.; Tufts College Medical School, Boston, 1911; member of the New England Obstetrical and Gynecological Society; affiliated with the Melrose (Mass.) Hospital, where he was president of the staff; died Sept. 26, aged 70.

Pearce, Charles Tabb ⊕ Cincinnati; University of the City of New York Medical Department, 1892; served on the staffs of the Cincinnati General and Good Samaritan hospitals; died Oct. 31, aged 82, of perforated duodenal ulcer.

Penrose, Thomas William, Philadelphia; Jefferson Medical College of Philadelphia, 1906; affiliated with the Veterans Administration; died in the U. S. Naval Hospital Sept. 9, aged 73, of carcinoma of the pancreas.

Peters, Charles Edward ⊕ Hayward, Calif.; Starling-Ohio Medical College, Columbus, 1912; member of the Radiological Society of North America; affiliated with the Hayward Hospital; died Aug. 1, aged 64, of coronary occlusion.

Phillips, Alexander Harold ⊕ Chicago; University of Illinois College of Medicine, Chicago, 1914; member of the staff of the Walther Memorial Hospital, where he died Oct. 7, aged 70.

Phillips, Claude Belford ⊕ Collingswood, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1922; died in Our Lady of Lourdes Hospital in Camden, Sept. 1, aged 62, of cerebral hemorrhage.

Powers, Emory Byron, Vaucluse, Va.; University of the South Medical Department, Sewanee, Tenn., 1904; for many years practiced in Winchester, where he served on the staff of Winchester Memorial Hospital; died Sept. 25, aged 74, of cerebral hemorrhage.

Ray, George Lewis ⊕ Portland, Ore.; University of Louisville (Ky.) School of Medicine, 1940; served during World War II; was shot and killed Sept. 25, aged 39.

Reese, Leroy Joseph ⊕ Bolivar, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1910; died Sept. 9, aged 66, of coronary occlusion.

Robertson, Edd Lafayette, Fort Lauderdale, Fla.; University of Nashville (Tenn.) Medical Department, 1899; died in the Veterans Administration Hospital in Coral Gables, Aug. 31, aged 78, of ruptured abdominal aortic aneurysm with hemorrhage.

Rochford, Richard Augustine, Springfield, Mass.; Harvard Medical School, Boston, 1914; fellow of the American College of Surgeons; served overseas during World War I; for many years a member of the board of health; later police commissioner; consultant at Westfield (Mass.) State Sanatorium; for many years affiliated with Mercy Hospital, where he was president of the staff and where he died Sept. 10, aged 64, of uremia and glomerulonephritis.

Rodenbeck, Frank ⊕ Arcadia, Ind.; Medical College of Indiana, Indianapolis, 1904; died Sept. 17, aged 71, of dissecting aneurysm of the aorta.

Ross, Clarence Wesley ⊕ Captain, U. S. Navy, retired, San Diego, Calif.; University of Oregon Medical School, Portland, 1912; specialist certified by the American Board of Internal Medicine; fellow of the American College of Physicians; entered the U. S. Navy June 26, 1915; retired Feb. 1, 1948; died Oct. 2, aged 67.

Rudd, James Colegate ⊕ Memphis, Tenn.; University of Tennessee College of Medicine, Memphis, 1931; specialist certified by the American Board of Radiology; served overseas during World War II; affiliated with the Veterans Administration Hospital, where he died Sept. 18, aged 46, of melanoma.

Salyer, Kelson N., Hazard, Ky.; Loyola University School of Medicine, Chicago, 1919; also a lawyer; served during World War I; at one time representative in the state legislature and county judge; one of the organizers of the Citizens State Bank and in recent years served as its president and chairman of the board; died Sept. 9, aged 63, of a cerebral accident.

Sevier, Ernest ⊕ Sacramento, Calif.; University of California Medical School, San Francisco, 1927; affiliated with Sutter and Mercy hospitals; died Sept. 5, aged 58, of coronary thrombosis.

Shaw, Harry William, New Lexington, Ohio; Starling Medical College, Columbus, 1898; served during World War I; on the staffs of the Bethesda and Good Samaritan hospitals in Zanesville; died Sept. 15, aged 79, of coronary occlusion.

Sidell, Samuel ⊕ Boston; Tufts College Medical School, Boston, 1926; member of the New England Obstetrical and Gynecological Society; chief of the obstetrics department, Allerton Hospital, and senior obstetrician, Booth Memorial Hospital in Brookline, Mass.; on the associate staff, Beth Israel Hospital, Boston; died in New York City Sept. 12, aged 51, of coronary thrombosis.

Sloan, Charles Elmer, North Little Rock, Ark.; Kansas City College of Medicine and Surgery, Kansas City, Mo., 1917; died Sept. 17, aged 74, of pulmonary occlusion and myocardial infarction.

Smith, Loran Eugene, Danville, Calif.; University of Illinois College of Medicine, Chicago, 1950; interned at Santa Clara County Hospital in San Jose, where he served a residency; killed Aug. 23, aged 33, in an automobile accident.

Stansberry, Charles Lee ⊕ Oneonta, Ala.; Medical Department of Grant University, Chattanooga, Tenn., 1899; died in Blount Memorial Hospital in Maryville, Sept. 18, aged 85, of pneumonia.

Stout, Gurn Thompson ⊕ Los Angeles; University of Nebraska College of Medicine, Omaha, 1926; drowned off Boat Canyon in Laguna Beach Sept. 13, aged 54, while diving.

FOREIGN LETTERS

BELGIUM

Professor René Sand.—Dr. René Sand died recently. He originally worked in the field of pathological anatomy and later became interested in the study of industrial accidents, and then in occupational medicine and pathology. After World War I he became secretary of the International League of Red Cross Societies, and professor of social medicine at the University of Brussels. He was the author of "Toward Social Medicine," and was founder and first president of the Belgian Society of International Medical Law.

Allergy.—At a meeting of the Belgian Society of Gastroenterology in May Mr. Froehlich emphasized the difficulties in the diagnosis of digestive allergies. The lesions range from simple edema to the acute necrosis associated with the Arthus phenomenon, and are characterized by changes in the capillary endothelium, venous thromboses, and pericapillary hemorrhages. The affected region is infiltrated by neutrophils and eosinophils. Monocytes, histiocytes, and plasmocytes are also found. Although these lesions may evolve toward granulomas with a tuberculoid or rheumatoid structure, they are not pathognomonic of allergy but only constitute a basis for assuming the allergic nature of the process. The phenomena of Reilly and the general adaptation phenomenon of Selye can bring about similar alterations. Other criteria of digestive allergies are contractions of the blood vessels, secretion of mucus, and favorable response to antihistaminics and oxygenated steroids. The most certain criterion is the isolation of a specific antibody, which is easy to detect if it exists in an appreciable quantity in the serum. The use of precipitins and of cutaneous or intradermal reactions may provide interesting responses, but in patients with digestive allergies the nature of the antigen usually remains unknown, because the sensitivity may be solely histological. Anaphylactic shock is then delayed, and these methods are of little or no help. These patients must be subjected to repeated examinations. Furthermore, the radiological and endoscopic alterations are not characteristic of the causal process. Why some patients have allergic symptoms when most persons under the same conditions do not is a major problem. The psychic state of the patient certainly plays a preponderant part. Gutmann's idea that as the result of certain modifications the organ becomes the organ of shock must be kept in mind. Needle biopsy of the liver, if better studied and especially if more precise, could help to demonstrate edema. The therapy is not specific; antihistaminics and corticotropin have been used with some success, and elimination regimens have their ardent defenders. We were used to the idea of transience in allergies, but—and this has been recently discovered—there is a slowly evolving type of allergy that causes permanent histological changes. This process may play a part in the pathogenesis of ulcers, regional ileitis, and ulcerative colitis.

Treatment Center for Poliomyelitis.—The treatment facilities dealing with poliomyelitis should be equipped to treat patients in the acute stage, the convalescent stage, and the orthopedic or definitive surgical stage. This requires years of treatment. For this reason a treatment center where a patient with poliomyelitis can be treated from the very first day of his illness until the definite healing has occurred has been set up at the College of Medicine in Gant.

Streptomycin and Tuberculous Meningitis.—At the 14th Congress of Pediatricians of the French Language, in May, 1953, Dr. Nameche of Brusssels presented a report based on the first two years' results of Belgian experience with streptomycin in the treatment of tuberculous meningitis. He reached the following conclusions: 1. The coexistence of a state of granulation has no influence on the general prognosis of tuberculous meningitis. 2. The unfavorable effect of a late diagnosis is evident in the mortality rate in the first month. 3. The mortality curve for tuberculous meningitis according to the age of the patients is parallel to the same curve for all forms of tuberculosis (this mortality is very high for infants and at puberty). 4. Strict and prolonged adherence to the therapeutic regimen has reduced the general mortality and has decreased the number of relapses. 5. These rigorous treatments have two drawbacks: long duration and risk of deafness. 6. Although treatments with streptomycin given simultaneously by intramuscular and intraspinal injections seem to necessitate strict and prolonged administration during the first three months, it is likely that these treatments when combined with other antituberculous agents can be made less rigorous during the later months without increasing the risks to the patients. The Belgian experience, however, is not yet sufficient to determine the efficacy of the addition of isoniazid to streptomycin in the treatment of this disease.

Medical Examination of Students.—A royal decree has recently been issued making medical examination for the exclusion of contagious diseases compulsory prior to registration in state universities as well as in the school and institutes connected with them, at the state school of veterinary medicine, and in the state agricultural institutes. Students whose registration has been refused on medical grounds may demand a second examination when there is reason to believe that they are free of contagious disease.

CHILE

Acute Abdominal Conditions.—In the April number of the quarterly of Viña del Mar Hospital, there was an article on acute abdominal conditions seen in the emergency service of that hospital during 1951. Among 15,900 patients observed at the emergency station, 2,910 (18%) had acute abdominal conditions. These included 947 patients with biliary colic, 461 with gastroenteritis, 394 with acute gastritis, 243 with acute appendicitis, 218 with chronic cholecystitis, 135 with colitis and enterocolitis, 91 with adnexitis and salpingitis, 49 with renal colic, 43 with gastroduodenal ulcers, 32 with acute cholecystitis, 28 with ectopic pregnancy, 22 with hernias, and 13 with pancreatitis. The rest included entities such as hepatitis, tuberculous peritonitis, pelviperitonitis, and gastric carcinoma. The authors outlined the manner in which these patients must be examined. The history of these patients at times is difficult to obtain, because they are in a state of shock or have pain, and must be orientated toward three main symptoms, pain, vomiting, and constipation or diarrhea. Regarding pain, its radiation, intensity, type, evolution, point of origin, and coexistence with other signs or symptoms are important. Continuous pain may be acute or chronic. Acute pain, if followed by shock, suggests rupture, perforation, or torsion. In the absence of shock, it may accompany appendicitis, acute cholecystitis, pyelitis, and adnexitis. Continuous or intermittent chronic pain suggests peptic ulcer or chronic cholecystitis. Colicky pain is usually due to mechanical obstruction of the gastrointestinal tract, but may be reflex in patients with tumors or mesenteric cysts. A third type of pain is that associated with tabes dorsalis, syphylitic meningomyelitis, and tuberculous pachymeningitis.

Vomiting is one of the commonest signs in patients with acute abdominal conditions. It is most intense in patients with intestinal obstruction, especially if there is strangulation of the small intestine. It appears early in patients with appendicitis and is rather persistent in patients with pancreatitis. It is less frequent than thought in patients with cholecystitis. The laboratory and x-ray department are of great help in arriving at a correct diagnosis.

The items in these letters are contributed by regular correspondents in the various foreign countries.

Bulletin of Chilean Society of Cardiology.—The board of directors of the Chilean Society of Cardiology decided on April 25 to publish a bulletin that will be the official organ of the society and will appear three times a year. The first issue appeared recently and contained an article on normal and abnormal ballistocardiograms by Prof. Rojas Villegas and others. The authors concluded that Dock's photoelectric method produces satisfactory tracings with a constancy that permits the comparison of successive tracings. The size of the recorded waves vary greatly in normal persons but their amplitudes decreases in those of persons over 40 years of age. The normal tracings present morphological alterations of the waves in a very low percentage. Finding these alterations in more than 20% of the tracings indicates an abnormal condition. The tracings of 174 patients (44 with valvulopathies, 40 with arteriosclerosis, 40 with angina pectoris, 30 with myocardial infarction, and 20 with hypertension) were studied. They were compared with those of 100 normal persons. In order to evaluate the tracings objectively, the authors proposed a point system giving to the various patterns a definite number of points. Although this system is arbitrary, it gave them a scale with which to compare various tracings. Most of those from subjects considered normal had less than 50 points, whereas those from the abnormal subjects had more than 50 points on this scale. The tracings of the patients with valvulopathies, however, fell within the normal range, but no significant difference was observed between the scale ratings of ballistocardiograms from patients with arteriosclerosis, angina pectoris, and hypertension. Those of patients with myocardial infarction were significantly different from those of patients with hypertension and arteriosclerosis but not from those of patients with angina pectoris. The authors concluded that the ballistocardiograph lacks specificity and at present is not of great value in the diagnosis of coronary insufficiency.

An electrocardiographic study of 30 normal pregnant women was reported by Dr. A. Illanes and co-workers. Of these, 24 showed electrocardiographic changes of the P-waves, Q-waves, and T-waves, the electrical position of the heart, the direction of the electrical axis, and the ventricular gradient in the course of pregnancy. The auricular complex showed changes in the last three months of pregnancy, becoming negative in 13 and diphasic in 6. Markedly negative Q_3-waves, which had no pathological meaning and which were due to changes in the electrical potential of the heart were observed in six patients. The T-waves became negative in 14 because of changes in the electrical position of the heart. In the precordial leads the T-waves became negative in V_1 in 22 patients and in a smaller proportion in the other leads (V_2 in 4, V_3 in 1, and V_4 in 1). In 14 patients, the heart rotated counterclockwise on its anteroposterior axis in the course of the pregnancy. The ventricular gradient moved to the left an average of 7 degrees (range 3 degrees to 22 degrees).

Acute Hepatitis in Children.—In the May issue of the *Revista Chilena de Pediatria,* Dr. H. Niemeyer and others, reported 65 cases of acute hepatitis in children ranging in age from six months to 11 years, with 60% of the children under 4 years of age. Slightly less than half of the children had a history of contact with patients suffering from viral hepatitis or of blood transfusions made during a maximal incubation period. A preicteric period of about three days and characterized by anorexia, lassitude, fever, mucous discharges from the respiratory tract, or gastrointestinal disorders, was observed in 61 patients. The first symptom of the icteric stage may be bile-stained urine, acholic stools, or jaundice of the skin or mucosa. In 36, the jaundice was of medium intensity, but in 22 it was intense. General symptoms may disappear rapidly in this stage of the disease. Hepatomegaly was present in all the patients, but splenomegaly was present in only 13. In the posticteric stage, hepatomegaly persisted and resolved very slowly. In a group of 20 of these patients, the average total serum bilirubin was between 20 and 55 mg. per 100 cc. Cephalin-cholesterol flocculation, colloidal gold, scarlet red, and thymol turbidity tests were consistently abnormal in most of the patients with a gradual improvement leading to normality in from 20 to 180 days. The positive flocculation tests and hepatomegaly were the last abnormal findings to disappear.

Patent Urachus.—In the *Revista Chilena de Pediatria* for May, Dr. Ines Ulloa Acuna reported on four patients (three girls and one boy) with patent urachus. Two of the girls also had vesicoumbilical fistulas and were operated on during their second month of life. Both made uneventful recoveries. The other two patients had suppurating cysts of the urachus and were seen during their second year of life 15 days after the onset of the acute symptoms. In both patients, the cysts were evacuated, and, after the infection was controlled with antibiotics, they were removed and healing was prompt.

DENMARK

Falling Tuberculosis Death Rate.—On Sept. 5, at the annual meeting of the Danish National Association Against Tuberculosis, Dr. J. Gravesen presented some remarkable figures dealing with tuberculosis. Between 1948 and 1952 the tuberculosis death rate has been more than halved, with 1,034 deaths from all forms of tuberculosis, or 25 per 100,000 persons, in 1948, as compared with 471 such deaths, or 11 per 100,000, in 1952. Each of the years between 1948 and 1952 showed a steady fall of the tuberculosis death rate. Thirty years ago tuberculous meningitis was responsible for about 13 deaths per 100,000 every year, whereas in 1952 this figure was reduced to 0.3. In 1935 deaths from tuberculosis among children from birth to 14 years old numbered 235, or 25 per 100,000. In 1948 there were only 68 such deaths, or 6 per 100,000. In 1952 the deaths at this age numbered only 10, or 0.9 per 100,000. In the same year in Copenhagen alone there were no deaths from tuberculosis among patients under the age of 14. In 1935 there were 29 tuberculosis deaths per 100,000 children in Copenhagen, and in 1948 this ratio was reduced to 8 per 100,000. The tuberculosis morbidity rate presents a very different picture. The figures for 1952 are not yet available, but those for 1951 show that in this year alone 2,412 new cases of pulmonary tuberculosis were reported, a rate of 56 per 100,000 persons. The corresponding rate in 1950 was 59 per 100,000. The records of the Danish Public Health Service show that there are still about 15,700 persons suffering from pulmonary tuberculosis in the country, and, if the other forms of tuberculosis are taken into account, the total of still-living tuberculosis patients can be brought up to more than 16,500. These figures and their counterparts in the other Scandinavian countries show that though persons have almost ceased to die of tuberculosis, they continue to suffer badly from it.

Penicillin Prophylaxis of Streptococcic Infections.—In the wing of the Refsnaes Coast Hospital for children not suffering from tuberculosis, Dr. Sven Helbo has undertaken a comparative study of the efficacy of penicillin given by mouth as a preventive of streptococcic infections. He divided the children into two equal groups based on odd and even admission numbers. Between January and May, 1951, each child in one group was given daily two tablets containing 100,000 units of penicillin. The children in the control group were given placebos, and neither the children nor the staff of the hospital knew which tablets were which. The 70 children in each group were kept under close supervision with the routine taking of throat swabs, the erythrocyte sedimentation rate, and the antistreptolysin titer. At the outset 9 children receiving penicillin tablets and 10 children receiving the placebos had streptococci in the throat. All the fortnightly swabs taken from the penicillin-treated group yielded negative cultures, whereas 21 of the controls yielded positive results. There were two cases of tonsillitis and one of otitis media among the controls and no such streptococcic infections in the penicillin-treated group.

A new series of tests was carried out late in 1951 and early in 1952 on 98 children who were given penicillin by mouth and 108 controls who received placebos. At the outset 18 of the penicillin-treated group and 24 of the controls had streptococci in the throat. The swabs taken fortnightly showed no infection of the penicillin-treated group and 39 carriers in the control group. In this group there were 20 definite cases of streptococcic infection as indicated by clinical findings, positive swabs, and a secondary rise of the antistreptolysin titer. There were no such cases in the penicillin-treated group, whose members spent a total of 6,542 days in the hospital without streptococcic infection, whereas the members of the control group spent 7,173 days in the hospital with 111 days representing streptococcic infections. Other infections, represented by rhinopharyngitis and chickenpox, also behaved differently in the two groups, with the control showing twice as great a morbidity as the penicillin-treated group.

Discussing these findings, Helbo concluded that prophylactic treatment with penicillin is effective both with regard to the carrier state and actual disease due to streptococci. The risk of producing penicillin-resistant strains of streptococci seems to be small, and in none of his patients did he observe reactions indicative of penicillin allergy. He admitted that such prolonged penicillin treatment is likely to induce a black deposit on the teeth, and that a natural immunity to streptococcic infections in the hospital may not develop in the children thus treated.

The Ideal Medical Partnership.—Dr. J. Riising, who has grown old in helping his colleagues settle partnership quarrels, has recently told the readers of *Ugeskrift for Laeger*, the organ of the Danish Medical Association, what he thinks is the ideal medical partnership and what can best be done to avoid the tragedies of partnerships dissolved in mutual bitterness. Since human nature is much the same the world over. Riising's experiences also may be helpful to physicians who are not Danes. In the first place the ages of two partners may determine success or failure, and the ideal would be a gap of about 20 years between them. If partners are of the same age, they may have the same set of friends and the one may find it hard to remain on duty while the other dines with friends who have invited both of them. Besides, when the wives and children are of the same age, gossiping and quarreling are apt to be comparatively common among them, whereas an elderly partner and his wife can adopt a parental attitude to the family of the younger partner. The elderly doctor must begin to look for a partner before his own practice begins to wane. Statistics compiled by Danish health insurance societies show that a practice seldom increases after the doctor has passed 50. This happens because of the deaths and changes of address of his patients, not because they have deserted him. Riising has found that there is no standard contract suitable for all. Each contract must reflect the special requirements of the two parties, but it is a good general rule to provide in a contract for a year's trial of the ability of the two to work well together. Every contract should also include a dissolution paragraph defining exactly the conditions under which two doctors shall part. Such a paragraph may have a usefully inhibitive effect on an irritated partner who, on reading it, is reminded how costly it will be for him to take the first step. In Riising's opinion, such a dissolution paragraph should carry a greater penalty for the man who wants to break away. As a rule, this paragraph should assure the departure of one of the partners from the area in which they have practiced, for much trouble will arise from further proximity of ex-partners. The paragraph may be so worded that the partner who takes the initiative in dissolving a partnership must also leave the neighborhood, or it may be the younger partner who must do so. In any case, whether a partnership is successful or disastrous, Riising agrees with Ibsen in giving woman the credit for either.

MEXICO

Anatomic and Radiological Studies of Thoracic Lymphatics.—In recent years, Dr. Alejandro Celis of Mexico City and his collaborators have studied the lymphatics of the thorax in cadavers of normal subjects and of those with pulmonary disease. Some of the findings in 50 human cadavers were described in the *Acta radiologica* (38:461-470 [Dec.] 1952). They removed the ninth rib from one group of bodies. The aorta was then dissected and pulled forward, by which approach they were able to identify the thoracic duct in most cases. In others they injected a dye and followed the dissection upwards into the neck as far as the termination of the duct. In another group the thoracic duct was injected with dye and carefully dissected from the diaphragm to the upper part of the thorax, and its course, relations, ramifications, and branches studied. In most cases they found a single trunk of variable diameter, tortuous and constricted at intervals, ascending through the posterior mediastinum behind the esophagus between the aorta and azygos veins. In two cases they observed that the thoracic duct divided into two vessels of about the same size, which reunited at about the level of the fourth thoracic vertebra. In three they found several trunks opening into the thoracic duct at the level of the aortic hiatus of the diaphragm. In two cases they encountered a branch communicating with a plexus of lymphatics around the aorta at about the level of the seventh and of the eighth thoracic vertebras respectively. In two cases a branch was found connected with a small plexus of lymphatic capillaries that surrounded both the aorta and the esophagus, and in the last two cases they were able to identify several branches that were traced back to a group of lymph nodes at the level of the pulmonary hilus. In some of these cadavers the injected dye filled certain branches and stained several lymph nodes. In another group the left subclavian, left internal jugular, and left innominate veins were tied, and, after removal of the eighth rib, a left thoracotomy was performed. The thoracic duct was dissected for 10 cm. just above the aortic hiatus of the diaphragm and a needle connected to a catheter introduced into the duct. The opening into the thoracic cavity was then sutured and the body taken to the roentgen department, where a radiopaque substance was injected under fluoroscopic observation and films obtained.

National Campaign Against Typhus.—The morbidity rate from epidemic typhus in Mexico has oscillated between 4.8 and 14.4 per 100,000 in the years from 1939 to 1951. Dr. Carlos Ortiz-Mariotte, chief of the National Campaign Against Typhus, reported in the March, 1953, issue of the *Boletín de la Oficina sanitaria panamericana* (34:236-244, 1953) that, although Mexico's Public Health Service applied chlorophenothane (DDT) powder to infested persons and contacts as a typhus control measure as early as 1944, insufficient and deficient coverage allowed outbreaks to continue throughout the country. In 1951, therefore, a nation-wide campaign was initiated to eradicate the typhus vector, the body louse.

Chlorophenothane powder was used alternately with other insecticide powders with a residual effect to prevent development of resistant strains of the vector. Experiments showed that laundry soap containing 5% chlorophenothane is very effective in killing the typhus vector and that soap containing 3.5% is adequate. Soap containing 2% chlorophenothane is now being studied. It was also found that after one year the impregnated soap retains over 75% of its insecticidal potency. Efforts are being made to interest large soap manufacturers in producing and marketing this type of soap, to be sold at cost. For head delousing, petroleum jelly (Vaseline) containing 2% chlorophenothane, which is more acceptable than kerosene, chlorophenothane powder, or shaving the scalp, was produced.

The selection of communities for louse surveys is based on social, economic, and epidemiological factors known to be compatible with a high incidence of lice. Mass treatment is administered in communities that show an index higher than 30%; selective treatment by blocks is applied in those having an index of from 10 to 30%, and selective treatment by families is used in communities with an index lower than 10%. All clothing and other articles that come into contact with the body are treated with chlorophenothane powder.

The original infestation rate was 3.1 times the rate after treatment of clothes with chlorophenothane powder and 4.5 times that after use of chlorophenothane soap. The petroleum jelly preparation is not only 100% effective for hair delousing but its residual effect kills the larvae. While treatments are being administered, the population is instructed on the objectives of the campaign, the effect of chlorophenothane powder, the cooperation that is expected from each family, and how to obtain and use the insecticides.

CORRESPONDENCE

CHRISTIAN MEDICAL COUNCIL FOR OVERSEAS WORK

To the Editor:—Readers of THE JOURNAL, who follow the progress of international relations and medical programs of an international nature, may be interested to know about the Christian Medical Council for Overseas Work and its varied activities. This council, which was created in 1938, is the central medical organization that serves primarily the interests of 50 Protestant church foreign mission boards that maintain organized medical work abroad—about 800 hospitals, 15 tuberculosis sanatoriums, 150 schools of nursing, and approximately 2,000 independent dispensaries, as well as 4 medical colleges and a union medical training institute in the Congo. These societies partially support this office as a center of information and advice for their far-flung medical enterprise.

The council's activities include the recruiting of personnel—general physicians and surgeons, specialists, dentists, nurses, hospital administrators, technicians, medical social workers, and health educators; the counseling of candidates in these fields regarding preparation for service overseas; formulating programs of graduate study and clinical experience for a rapidly increasing number of persons coming to the United States; arranging itineraries and short-term service appointments abroad for specialists from the states; receiving gifts of supplies, equipment, books, and journals for overseas use; and instructing nonmedical missionaries in the principles of hygiene, community health measures, and simple medical services. The four medical schools, one each in Seoul, Vellore, Miraj, and Ludhiana, one union medical training institute in the Congo, and a projected medical college in the Philippines are all important concerns of the council, particularly with respect to staff. If there are any who are interested in helping this organization carry out its functions more effectively or who wish to participate personally in the work of one of the overseas institutions, I shall be glad to hear from them.

DOUGLAS N. FORMAN, M.D.
Secretary, Christian Medical Council
for Overseas Work
Room 1111, 156 Fifth Ave.
New York 10.

ANEURYSM OF CHOLECYSTIC ARTERY

To the Editor:—A recent article on the management of gastrointestinal hemorrhage of undetermined origin (Bockus, H. L., and others: *J. A. M. A.* **152:**1228 [July 25] 1953) reminds me of what I believe to be a unique case. The patient died in 1939, and I performed the autopsy. A woman in her late forties was admitted to a general hospital. She had been under treatment for syphilis by her private physician for several months. About one month before admission to the hospital, she passed a large, but unknown, amount of bright red blood by rectum. Hospitalization was urged by her physician but refused. Hemorrhage occurred again two or three times. The woman became very weak and finally consented to go to the hospital. On admission she was very weak and pale and had an erythrocyte count of less than 2 million, with a correspondingly low hemoglobin level. The blood pressure was quite low. Sigmoidoscopy and a thorough roentgenologic survey of the gastrointestinal tract were uninformative. Physical examination revealed nothing but hypotension.

During the first week in the hospital, there was no frank bleeding. At the end of the first week, a transfusion of 500 cc. of whole blood was administered. Within two hours after the transfusion, there was a severe hemorrhage by rectum, and after the hemorrhage the red blood cell count and blood pressure fell below what they had been on admission. The transfusion was repeated three or four times during the next few weeks. Each time severe hemorrhage followed the transfusion within two hours. Death followed a few hours after the last transfusion.

Autopsy was performed about two hours after death. On opening the body, it was seen that the intestinal tract contained a large amount of fresh red blood from pylorus to rectum. The liver was removed and laid aside for later attention. The gastrointestinal tract was removed intact from upper esophagus to rectum, was carefully opened and rinsed, and was minutely inspected throughout. No fecal material was identifiable; it probably had been washed out by the hemorrhage. Absolutely no source of bleeding could be found in the intestinal tract. No evidence of blood was found above the pylorus. I then glanced at the liver and saw a large drop of blood hanging from the end of the common duct. Careful dissection along the common and cystic ducts led to the discovery of a saccular aneurysm of the cholecystic artery, about 8 mm. in size. This had ruptured into the cystic duct just below the gallbladder. This was obviously the source of the hemorrhage. It seems reasonable to believe that, as the blood pressure was reduced by hemorrhage, the arterioductal fistula was closed by thrombosis and remained closed until the blood pressure was again raised by transfusion. This phenomenon was repeated until—apparently—the blood was unable to clot, and the fatal hemorrhage ensued.

In the light of the article by Bockus and his associates, it now seems that this woman's life might have been saved. By gently milking the duodenum downward from the pylorus, the level of the hemorrhage could probably have been located at the region of the ampulla of Vater. I have no doubt that on opening the duodenum at this level, very active hemorrhage from the common duct would have been seen if a transfusion had been given just before the abdomen was opened. Careful dissection along the duct would then have revealed the aneurysm (during life it might have been palpated), and the source of hemorrhage could have been removed. Further transfusion would then have been effective.

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RECTAL PAIN

To the Editor:—We should like to call attention to a cause of rectal pain that, to the best of our knowledge, has not been mentioned in the literature. This infrequent but definite clinical entity is hemorrhage into a hypertrophied anal papilla. A normal anal papilla becomes hypertrophied because of infection and trauma. Infection may extend from adjacent crypts of Morgagni, either associated with or independent of a true proctitis. Infection of the wounds after anorectal surgery commonly produces marked and rapid swelling and hypertrophy of a papilla that was so small that it was overlooked at the time of surgery. We always excise or destroy all anal papillae found at anorectal operations with a cautery. Trauma occurs at stool when the papillae, which normally project upward, are either everted or dragged down with a hemorrhoid; thus, trauma to an already inflamed and hypertrophied papilla can easily produce a hemorrhage into the papilla with a typical chain of events.

There is usually a history of sudden onset of a severe pain "up in the rectum" that appeared soon after defecation. There may or may not be protrusion or blood from associated hemorrhoids or fissure. The pain is a severe ache-like pressure and bearing down feeling in the rectum proper; it in no way resembles the burning discomfort of a fissure. Little or no relief is obtained from heat or analgesic ointments applied locally. Relief usually requires opiates or surgical intervention. Diagnosis is easy and can usually be made on examination by insertion of a finger. The enlarged papilla can be felt as a smooth, tense, exquisitely tender swelling. Confirmation is made after insertion of a beveled anoscope when the papilla can be seen arising from the dentate line and having a characteristic blue discoloration from the contained blood. Confusion in diagnosis can arise only from a hemorrhage into an internal hemorrhoid. The symptoms are quite similar, but the latter is several times larger, has no free end, and is covered with rectal mucous membrane. In our experience, hemorrhage into an internal hemorrhoid, while mentioned in the literature, is less common than hemorrhage into a hypertrophied anal papilla. Treatment is surgical and consists of incision or excision with the patient under local anesthetic as an office procedure, or excision together with correction of associated abnormalities as a hospital procedure. Occasionally the papilla will rupture and result in complete relief of symptoms. Inspection then shows a small clot protruding from the rupture, similar in appearance to an external thrombotic hemorrhoid that has ruptured. Hemorrhage into an hypertrophied anal papilla should be suspected when the patient complains of symptoms as outlined.

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BLOOD PRESSURE STUDY

To the Editor:—My associates and I are engaged in a study of the blood pressure in persons aged 65 and over. The study is sponsored by the New York Heart Association. Early in September we mailed questionnaires to 17,000 physicians throughout the country. Each physician received a letter of instruction for filling out the questionnaire. It was suggested that he supply blood pressure and other data on six cases, if possible. Thus far the number of responses has been disappointingly small. Although we realize that a relatively short time has elapsed since the questionnaires were sent out, we are afraid that many physicians may not appreciate the value of this study and the fact that it will fail unless they give their full cooperation.

In order to bring these facts to the attention of the medical profession, we would appreciate it if you could mention the project, and urge the support of physicians. Filling out the questionnaires does not require much time, and many physicians will, we hope, take the trouble to do so if they understand the importance of their cooperation. Questionnaires have been sent to only about 1 in 15 physicians. Those who have received questionnaires are urged to complete them. An additional supply of cards is available at Blood Pressure Study, 11 E. 100th St., New York 29. Others who are interested and wish to participate may do so by mailing a postcard to the same address.

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REPRINTS ON STRESS

To the Editor:—In 1950, our institute initiated the publication of a series of reference volumes entitled "Annual Reports on Stress" (Montreal, Acta Medical Publishers) in which the current world literature is surveyed every year. Up to now, we have compiled the pertinent literature partly from medical periodicals, monographs, and abstracts and partly from reprints sent to us by authors. Of all these, reprints proved to be the best source of data that we felt deserved prompt attention in our annual reports. To insure prompt inclusion of publications in the annual reports, investigators interested in stress research are requested to send us their reprints as soon as they are available.

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Alexander Horava, M.D.
Institute of Experimental Medicine
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University of Montreal
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TREADMILLS

To the Editor:—I was interested by the article by Simon and Wright in The Journal, Sept. 12, 1953, page 98, describing a motorized treadmill for quantitating intermittent claudication. I developed this apparatus 10 years ago in the Peripheral Vascular Disease Clinic of the Maimonides Hospital, and it has been in use there since. While the treadmill has long been used in metabolic laboratories for the study of energy exchange, the development of a motorized treatmill in which the rate of walking could be controlled and used for determining walking capacity and quantitating intermittent claudication was new and original with my invention. A description of the apparatus and its use in the evaluation of peripheral arterial impairment is included in the second edition of "Peripheral Vascular Diseases: Diagnosis and Treatment" (Collens, W. S., and Wilensky, N. D.: Springfield, Ill., Charles C Thomas, 1953).

It was at Dr. Wright's request that I permitted one of his resident physicians to visit my clinic to see the operation of this equipment and, with my permission, to duplicate this technique at the New York Hospital Peripheral Vascular Disease Clinic.

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To the Editor:—In reply to the letter by Dr. William S. Collens, we are very glad to extend to Dr. Collens, and to all others who have contributed to the use of the treadmill principle in the measurement of physiological response, due credit for any advances that may have led to the development of the equipment described in our article in The Journal, Sept. 12, 1953.

Dr. Collens did permit Dr. Simon to see his equipment. In order to conserve space, however, we did not review the history of the treadmill as it is presently applied. Actually, the equipment described in our paper differed in some details from that of Dr. Collens. It was largely an outgrowth of the type of treadmill used for many years in the laboratory of Dr. Eugene DuBois of the Cornell University Medical College. Our purpose in describing the equipment in some detail was simply to permit duplication by others who might wish to repeat our studies or to utilize the same technique in the evaluation of other substances that may be suggested for the treatment of intermittent claudication. This we consider to be sound practice in the presentation of any experimental data.

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AMERICAN IN JENA

To the Editor:—On my recent visit to Europe, a German professor of medicine told me the following story. In 1945 he was in Jena when American troops entered that city. Martial law was declared, and the citizens were forbidden to leave their homes. With fixed bayonets, American soldiers patrolled the city. This professor too cowered in his home, shivering and quivering. Suddenly there was a violent knock on his door. He thought his last hour had come. Trembling and covered with cold sweat, he opened the door. There, in full regalia, stood an American medical officer. The officer pulled a book from his pocket and asked sternly: "Are you Professor . . .?" "Ye-e-s-s," stuttered the frightened professor. "Did you write this book?" demanded the officer. The professor nodded a weak yes. "Then, please autograph it for me." This done, the officer snapped, "Thank you very much," came to attention, saluted, turned on his heel, and marched off.

Robert Wartenberg, M.D.
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COUNCIL ON MEDICAL SERVICE

CONFERENCE ON PHYSICIANS PLACEMENT SERVICE ACTIVITIES

Following are the summary and conclusions of the Council's second regional conference on physicians placement service activities prepared by Rowland B. Kennedy, Executive Secretary of the Mississippi State Medical Association, who acted as conference summarizer.—Ed.

The second regional Conference on Physicians Placement Service Activities was conducted in Asheville, N. C., by the Committee on Extension of Hospitals and Other Facilities,[1] Council on Medical Service, on Sept. 19, 1953, at the Battery Park Hotel. Ralph A. Johnson, M.D., Detroit, chairman of the sponsoring committee, presided. The conference was opened at 9:30 a. m. with 25 participants present, among whom were constituent society officers and committeemen, constituent society executives, representatives of medical schools, staff members of the American Medical Association, and a health council executive. States represented were Pennsylvania, Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Mississippi, and Alabama.

The chair oriented the conference on the background of placement service activity, pointing out the function of the American Medical Association in its role as a coordinating agency. Essentially, placement service is concerned with effecting optimum distribution of physicians throughout areas of need. The mechanics of the services are extremely direct, working most effectively from state level with the benefit of active assistance from the A. M. A. headquarters office.

Each participating state in reporting to the conference demonstrated a positive approach to the placement problem, but the degrees of emphasis upon the approaches varied widely. Factors influencing these degrees of emphasis included present supply of physicians, eccentricity of state law in medical licensure, attitudes held in constituent societies, economic and other indigenous considerations. Views expressed, however at variance in plan and detail, all sought the common solution of effective physician distribution throughout areas of need. No reporting state conveyed an impression of having regarded the problem passively.

VIRGINIA'S AGGRESSIVE APPROACH

Physicians placement service activity in Virginia is a function of the Virginia Council on Health and Medical Care. This council is comprised of some 55 member organizations among which is the Medical Society of Virginia; it is supported by the member groups, and a central office for this independent activity is maintained by an executive staff. The placement program of the council is a vigorous undertaking to supply physicians to communities with insufficient medical services. To accomplish this mission, the council makes use of a wide area of contacts through communities, organizations, physicians, county medical societies, hospital training programs, and medical schools. The program ultimately contemplates the effective placement of all graduates of Virginia medical schools and now works closely with students in the third and fourth years. The present service seeks placements (1) for an area of need where there is no physician, (2) for replacing physicians entering military service, (3) for needed specialists, (4) for associates and assistants, and (5) for replacing physicians lost through removal and death.

It is a policy of the council that its assistance in obtaining physicians must be sought by communities. Through the medium of field visits, questionnaires, and surveys aimed at determining the degree of need, the council achieves a dual purpose. First, a calculated attempt is made to educate the community to its responsibility in obtaining the physician with council assistance, and, secondly, overconcentration of medical service is fortunately avoided. While the physician is being obtained, the community is revisited to maintain interest in the enterprise. Final placement, wisely enough, depends upon arrangements and agreements arrived at by the community and the physician. A final service is furnished toward making the placement permanent by continuing the relationship initially established between the community and the physician placed. The council coordinates its activities closely with the Medical Society of Virginia and the American Medical Association.

INDIVIDUAL STATE PLACEMENT PROBLEMS

Each reporting state listed problems encountered in making a placement service effective. Among these, two reports appeared to sum up problems most nearly common to all. It was found that there was difficulty in evaluating accurately the extent of need for placement of a physician. Apparently, the best solution to this problem is use of the A. M. A.-prepared priority rating plan. Still another problem is found in the supply of physicians available to states to satisfy demonstrated needs. This problem does not presuppose a shortage of physicians nationally but rather tends to point up certain local areas of maldistribution wrought by legal peculiarities, below-average economic levels, population distribution, and facilities available. The lack of hospital facilities, more recently a problem with which nearly all areas can better cope because of the Hill-Burton program, still influences the unsatisfied need in some localities. Areas with low, unstable economic levels experience difficulty in procurement of physicians, while the lack of social advantage also poses problems.

The combined thinking of the conference for approaching solutions to the common problems of procurement in placement activity centered about establishing community responsibility for providing medical service for which there is demonstrated need. Reasonable assurances of income, adequate clinical facilities, desirable environment for his family, all tend to encourage a physician to accept a location opportunity.

MEDICAL EDUCATION'S ROLE IN PLACEMENT

Among the members of the conference were representatives of three medical schools who discussed with the conferees certain didactic aspects of medical education that tend either to influence or dissuade rural practice. There was not a pronounced tendency among the schools represented to produce specialists but rather graduates who are adequately prepared to undertake general practice or to pursue further training. The tendency for medical graduates to return to native localities, the weaknesses inherent in rural secondary education, and the superior opportunity for training and practice in the urban areas appeared a chief reason for difficulties in rural procurement. Not all conferees found this problem without resolution, and nearly all constituent societies reported active rural health programs.

A. M. A. PLACEMENT SERVICE

Physicians placement service activities of the American Medical Association are conducted by the Council on Medical Service through its staff in the Chicago headquarters office. Working files of requests, of physicians available for specified areas, and of location lists within states, follow-up files, correspondence, and liaison activity constitutes much of the task of maintaining this central and necessary coordination.

During the summer of 1953, Mr. Jack Riner, a medical student at Northwestern University, temporarily in the employment of the council, visited headquarters' offices of six constituent societies and examined state level placement programs. His report was absorbing and revealing, bringing out with clarity a majority of the problems encountered as well as explanations of techniques successfully developed.

The criteria developed during 1952 concerning the priority rating of communities in search of a physician was explained. This priority rating plan, in which numerical values are used in grading need and facilities, is being successfully applied. The plan offers what may be the best basic approach for objectively evaluating requests for physician placement.

Based largely on the findings of the Virginia approach, placement service activity appears as a vital adjunct to medical public relations. It obviously aids the economy of any given area in assuring medical care. Social and economic advantages accruing to rural life are seen from adequate medical service brought about through this program. Finally, it is meeting a recognized, existing need in effecting a better distribution of physicians as a positive countermeasure against the force of socialization. The chair reemphasized the role of the A. M. A. placement service activity as a catalyst or coordinating agency in what is primarily a state responsibility

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[1] The Committee members are Drs. Ralph A. Johnson, Chairman, Detroit; Elmer Hess, Erie, Pa.; Walter E. Vest, Huntington, W. Va.; E. Dwight Barnett, New York; John W. Cline, San Francisco; Cleon A. Nafe, Indianapolis; and Willard A. Wright, Williston, N. D.

CONCLUSIONS

The conferees concluded that (1) physicians placement is a necessary service for which there is a continuing need; although it is primarily a state responsibility, its present degree of successful development as well as its useful future depend upon coordination and leadership from the A. M. A.; (2) there are varying degrees of positive approach at state level to a constructive placement program, based upon indigenous considerations; (3) there should be a minimum standardization on the essentials of a successful placement program with regard to basic technique and objective without forcing unwanted policy upon the individual state; (4) field work is essential in the matter of educating communities in responsibilities and in surveying need; (5) there are common problems that ought to have the best cooperative thinking of the several constituent societies; and (6) the criteria for priority rating developed by the Council on Medical Service is a splendid positive approach in evaluating community need.

MEDICAL MOTION PICTURES

Man in the Window: 16 mm., black and white, sound, showing time 28 minutes. Produced in 1952 by Victor Weingarten, New York, for, and procurable on loan or purchase ($45.00) from, Health Information Foundation, 420 Lexington Ave., New York 17.

This is the story of a recalcitrant old watchmaker who accidentally injures his right hand and becomes incapacitated. One of his customers, with whom he is on a basis of pseudo-antagonistic friendship, is a physical therapist. Following a number of fruitless attempts to resume his regular work, the watchmaker accepts the friend's advice and submits to a series of physical therapeutic treatments which ultimately restore him to functional efficiency. Medically, the film is entirely satisfactory except for one point, namely, the involvement of the joint after an apparently minor hand injury. The film includes some well-selected scenes from actual physical therapy procedures carried out at Bellevue Hospital. This is a frank recruitment plea for physical therapists and is suitable for showing to lay audiences, including adult groups and children of secondary school age. The photographic quality is excellent, but the sound quality is poor.

Baby Care: Feeding: 16 mm., black and white, sound, showing time 24 minutes. Produced in 1944 by Pennsylvania State College. Procurable on loan from Pennsylvania State College, State College, Pa., or on purchase from Educational Film Library Association, Inc., 1600 Broadway, Suite 1000, New York 19, N. Y.

The film is divided into two major sequences: correct feeding of the baby, and baby's food. It depicts the more accepted procedures, at present, in the science and art of infant feeding. The introductory scenes show a mother gently awakening the baby for his feeding. This is followed by a sequence illustrating the proper method of feeding the baby, which includes both bottle feeding and breast feeding. The second half of the film is devoted to a step by step picturization of the preparation of a day's supply of the infant's formula. Flashbacks review important points in preparation of the food and feeding of the baby as the commentator summarizes the film. The chief point brought out in this film is the importance of cleanliness and how to maintain it in the feeding of small babies. This film will be useful in the instruction of mothers, Red Cross classes, practical nurses, social workers, and junior and senior high school girls in the technique of feeding infants. The photographic and sound qualities are good.

BUREAU OF LEGAL MEDICINE AND LEGISLATION

MEDICOLEGAL ABSTRACTS

Health and Accident Insurance: Total Disability in Relation to Physicians.—This was an action to recover under two health and accident policies issued to the plaintiff physician who instituted the actions. The physician died after an appeal of the case to the Supreme Court, and his wife was substituted as a party in his stead. From a judgment in the trial court in favor of the plaintiff physician, the defendant insurance company appealed to the Supreme Court of Minnesota.

The plaintiff was born in 1882. In 1909 he was licensed as a physician by the state of Minnesota. After eight years of general practice, he returned to medical school for a year of postgraduate work in obstetrics and gynecology and thereafter engaged in no other field of practice. In 1937 and later in 1944, the plaintiff purchased policies of health and accident insurance from the defendant. Each of these policies had stamped on the application the information that the plaintiff was a physician and surgeon specializing in obstetrics and gynecology. Each of the policies provided "If such injuries, as described in the insuring clause, do not result in any of the above mentioned specific losses, but shall wholly and continuously disable the insured for one day or more, the company will pay a monthly indemnity at the rate of the regular monthly benefit so long as the insured lives and suffers said total loss of time" and ". . . no reduction shall be made in any indemnity herein provided by reason of change in the occupation of the insured or by reason of his doing any act or other thing pertaining to any other occupation."

The injury that the plaintiff suffered left him with a permanent impairment. He sustained a rupture of the biceps tendon of his right arm and an acute sprain of the acromic clavicular joint as the result of an accident in his home while lifting a heavy piece of furniture in the process of laying a rug. On April 7, 1947, the plaintiff underwent an operation on his arm. A large clot was removed, and the biceps tendon that had been pulled loose from its fastening at the elbow was sutured to the triceps, another muscle in the upper arm. After 10 days in the hospital, he was discharged. He continued to suffer considerable pain and consulted a physician almost every other week until February, 1948. During this time, heat treatments, massage, and instruction in muscle reeducation were given. During the summer of 1947, there was gradual improvement, but attacks of severe pain of 3 to 10 days' duration occurred every two weeks. There was constant cramping of the muscle in the arms and pain similar to that felt when one strikes his "crazy bone." In January, 1948, a nerve block by infiltration of procaine hydrochloride (Novocaine) and quinine neuria hydrochloride was performed in an attempt to cut off the pain in the arm. The injection was repeated about a week later. The plaintiff continued to feel dull pain in his arm and was hampered by cramps when the arm was used. An examination of plaintiff just prior to the trial indicated a continued weakness in the right arm when tested against resistance. The biceps muscle was flabby, and there was a depression in the arm just above the elbow. There was a 50% loss of power in the biceps. Grasp in the right hand was 30 lb. (13.6 kg.), while in the left hand, roughly normal, the plaintiff could exert 60 lb. (27.2 kg.). Grasping power of the right hand was about one-third of what it should have been. There was an estimated 50% loss of ability in the pulling back motion of the arm, and the plaintiff experienced difficulty and pain in supination and pronation of the hand, especially when his arm was extended. He was unable to turn his arm over in front of him. The medical witnesses were of the opinion that this inability and weakness were permanent. One physician estimated a probable 15% loss of use of all functions of the right arm and hand. In the practice of obstetrics, said the court, there are certain techniques and functions that require the obstetrician to rotate his hand from the position of supination to that of pronation. Since he was unable to make these movements, he was unable to perform the work required of an obstetrician. Also, in a large number of obstetric cases, forceps must be used. It is necessary to grasp the forceps and to turn the hand over from a position of pronation to supination or from supination to pronation. The plaintiff was unable to do this. Also, in connection with the delivery of babies, a physician must, in the great majority of cases, perform an episiotomy. This the plaintiff was unable to do because he experienced a cramp when he had to clamp down on his needle forceps. He could not use any instruments requiring a grip. In operations, after his return to work, plaintiff would make the incision and the exploration, and then his associate would take over. Plaintiff would help hold the retractor and did other work requiring the use of his left hand. He had difficulty in taking blood pressure because of lack of strength to squeeze the bulb and had to depend on his nurse to do that. She also had to help him raise patients on the examination table. Whenever he attempted to lift anything, he had pain in his right arm. There can be no question on the record that the plaintiff was totally disabled from doing any work until he returned to his office, and after his return he did not try to conduct any operations unaided. If he had not been able to arrange for an assistant, the record indicated he would have had to stop work.

The defendant insurance company contended that the terms of the policies insuring against injuries that "wholly and continuously disable" the insured and that cause "total loss of time" are not ambiguous in themselves, that "total loss of time" should not be limited so as to mean total loss of time in the business or occupation or profession of the insured, and that where the terms of the policy do not specifically limit the meaning of the loss the court cannot insert such limitation. The plaintiff contended that the words "loss of time" as used in the policies means loss of business time from the occupation stated in the application for insurance, that the policies, when considered as a whole, showed that insurers and insured intended "occupational disability" insurance, and that to limit the coverage would mean a forfeiture of rights that the insured supposed he acquired.

Where clarification of the literal meaning of the terms of the contract is necessary but the nature of the limitation is not stated in apt words in the policy, said the court, this court, when presented with a question of the extent of coverage, must decide what the intention of the parties is as to the extent of the limitation of the literal meaning of the words. The literal meaning of the policy terms must be limited to some extent. The extent of the limitation does not appear in the policy. Different interpretations of the words is reasonably possible. We then have a contract that is ambiguous, the court determined. Where one of the parties draws a contract and the other must accept or reject but cannot vary the terms, the burden is on the party drawing the contract to make the meaning plain. Where meaning is thus uncertain, as it is in contracts here involved, the ambiguities and doubts must be resolved against the party who prepared the contract. Since the policies failed to state whether "loss of time," which means loss of earnings, must be incurred in insured's specific occupation or in some other occupation, the court must read something into the policies. A layman reading the policies in question would naturally conclude that "loss of time" with nothing more said, means loss of business time in the occupation of the insured. The circumstances of the issuance of the policies, with their stamped and written notations, although the policies say nothing as to loss of time from the insured's particular occupation, surround them with an air of occupational coverage. In our opinion, the court concluded, the contracts here are clearly ambiguous and should not be construed restrictively. It would seem that this is the sort of case in which the well-settled rule of construction against the insurer should be applied. It would seem that, even if the policies in their entirety do not indicate the intention of the parties, the contracts, being ambiguous, should be interpreted against the insurer. Adopting this approach, it must be held that the policies insure against disability to do the substantial and material acts of the insured's usual profession or occupation.

Accordingly the judgment of the trial court in favor of the plaintiff physician was affirmed. *Weum v. Mutual Benefit Health & Accident Ass'n., 54 N.W. (2d) 20 (Minnesota, 1952).*

BUSINESS PRACTICE

DETERMINING THE FEE

The following material was adapted from a public relat
manual issued by the Public Relations Department of
American Medical Association.—Ed.

The business side of medical practice gives rise to m
public relations problems. Patients may complain about
amount of the physician's fee, the way the bill is rende
or the manner in which it was collected. One of the
hurdles is the attitude of both doctor and patient toward m
cal fees. Although the doctor is a professional man, if
is to survive he must also be a businessman. Patients m
be encouraged to develop a realistic attitude about med
fees. Almost everyone who incurs doctor or hospital or c
bills has a hidden, if not overt, resentment about these c
The patient's attitude is "I didn't want to be sick. Now
stuck with all these bills." Paying medical bills is not
paying for a new car or television set or even a new s
A patient rarely has anything tangible to show for his m
cal purchase. His gratitude for the doctor's services o
fades fast once he begins to recover. It is essential that
tients learn to look on medical expenditures as a sound
vestment in their futures. Patients, too, must be taught
accept the doctor's right to charge a fair price for his hum
tarian services. The answer lies in mutual understanding
the financial problems of both doctors and patients.

There is no excuse for overcharging of any kind. A med
leader warns: "When you take the heart out of medicine
substitute a dollar sign, you are doing medicine a grave
service." Dr. Louis H. Bauer, A. M. A. past president, s
in his inaugural address: "Unfortunately, there are a
physicians who consider the practice of medicine as a me
of financial gain and that alone. Such individuals should
driven out of their medical societies. A physician who cha
exorbitant fees or who, when summoned in an emerger
refuses to make the call unless assured that the patient
pay, is a disgrace to the profession. Only a few are gu
of such practices, but those few do the profession incalcula
harm." In a constructive step toward improving public r
tions and doing a little "professional housecleaning," med
societies, with A. M. A. impetus, have in recent years
up mediation or grievance committees to hear and se
patients' complaints, the majority of which are about fe
The difference between high fees and excessive fees must
recognized, however. Some physicians, who have spent ac
tional years training to be specialists, and who, by nature
their practice have greater expenses, deserve a higher fee
their services.

Fees that are too low drive patients away just as quic
as do fees that are too high. A new doctor alienates ot
physicians if he undercuts local fees, and his patients sc
begin to wonder whether his fees are lower because he gi
service of a poorer quality. A doctor must avoid belittling
own services in conversations with his patients; for examp
a city physician soothed a patient about to undergo an app
dectomy by assuring her that "there was really nothing to i
Later the husband complained that the bill was too hi
"After all, you said yourself there was nothing to the ope
tion," he argued. Since it is wrong to charge too much, a
dangerous to charge too little, how can a doctor know j
how much to charge? The fair price is best. Most perso
are not looking for bargains in medicine. The average pers
is willing to pay a fair price for good medical service. A f
price can be arrived at only through a frank discussion wi
the patient.

MEDICAL LITERATURE ABSTRACTS

UNITED STATES

A.M.A. Arch. Dermat. and Syphilol., Chicago

68:119-240 (Aug.) 1953

Complement in Disseminated (Systemic) Lupus Erythematosus. J. A. Elliott Jr. and D. R. Mathieson.—p. 119.
Fluorescence of Microsporum Audouini-Infected Hair: I. Chemical and Spectroscopic Studies. H. M. Robinson Jr., F. H. J. Figge and E. S. Bereston.—p. 129.
Capillary Microscopic Examination in Skin Diseases. O. Gilje, P. A. O'Leary and E. J. Baldes.—p. 136.
Use of Chemosurgery in Dermatological Practice. C. J. Lunsford, H. J. Templeton, H. V. Allington and R. R. Allington.—p. 148.
Arthropods of Dermatological Interest. O. Canizares and H. Shatin. —p. 157.
Studies of Plasma Changes in Skin Diseases by Paper Chromatography. F. Katz, P. Telner, J. H. Quastel and S. F. Van Straten.—p. 167.
Autosensitization Dermatitis: Discussion and Protocol of Experiment. C. E. Lipschultz.—p. 178.
Malignant Granuloma of Face. N. E. Levan.—p. 187.
Efocaine in Control of Pruritus. S. R. Perrin.—p. 201.
Granuloma Annulare in Identical Twins. B. L. Schiff and W. B. Cohen. —p. 205.
Nonsurgical Treatment of Birthmarks by Tattooing. A. Leshin.—p. 208.
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Failure of Smallpox Vaccine in Treatment of Recurrent Aphthous Stomatitis. A. H. Kutscher, S. L. Lane and E. V. Zegarelli.—p. 212.
*Nonsurgical Treatment of Cutaneous Beryllium Granuloma. A. A. Fisher.—p. 214.
Sycosis Barbae Due to Trichophyton Rubrum (Purpureum): Report of Case. J. S. Ludwig.—p. 216.

Nonsurgical Treatment of Cutaneous Beryllium Granuloma.—There appears to be almost unanimous agreement that surgical intervention is the only treatment for cutaneous beryllium granuloma. The patient whose case is presented sustained lacerations on two fingers from a broken fluorescent bulb containing beryllium silicate. The wounds were sutured within one hour after the accident. Two weeks later, the tissues broke down and ulcerated, and three months later there were indolent ulcers of the skin over the distal interphalangeal joints of the third and fourth fingers of the right hand. The lesions on the fourth finger extended across the entire dorsal aspect of the phalanx and over to the mesial surface. The microscopic diagnosis was consistent with beryllium granuloma. Four months after the injury was sustained, the lesions were essentially unchanged. The patient was advised that the ulcers should be widely excised and plastic repair should be performed. This the patient refused. Boric acid ointment was applied to both lesions, and the distal interphalangeal joints of the third and fourth right fingers were immobilized with wooden splints. One month after this treatment was instituted, the smaller lesions on the middle finger had healed. However, the larger ulcer on the fourth finger was more tender and the zone of erythema was more pronounced. An ointment consisting of 5% cortisone in an oxycholesterol-petrolatum ointment was then prescribed. The patient was instructed to massage the ointment into the lesion twice daily and to keep the lesion covered with the ointment in the intervals between massage. The finger was no longer splinted. Ten days after the first application of the cortisone ointment, the lesion became less tender and the zone of erythema less marked, and there seemed to be some evidence of healing of the ulcer. The improvement continued steadily, and two months later, the lesion had healed completely. A roentgenogram at this time revealed that the previously reported osteoporosis had cleared.

A.M.A. Arch. Ind. Hyg. & Occupat. Med., Chicago

8:97-204 (Aug.) 1953

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Aggravation as Factor in Industrial Dermatitis. B. Appel.—p. 133.
Nickel Carbonyl Poisoning: Report of Case. J. L. Carmichael.—p. 143.
Kidney Injury After Chronic Exposure to Inorganic Mercury. L. Friberg, S. Hammarström and A. Nyström.—p. 149.
Occupational Hazards from Fungi Causing Deep Mycoses. S. S. Raphael and J. Schwarz.—p. 154.
Case of Panmyelophthisis After Exposure to Chlorophenothane and Benzene Hexachloride. L. Friberg and J. Martensson.—p. 166.
Toxicity of 2-Ethylhexyl Diphenyl Phosphate: I. Immediate Toxicity and Effects of Long-Term Feeding Experiments. J. F. Treon, F. R. Dutra and F. P. Cleveland.—p. 170.
Fumes and Gases from Selenium Rectifiers Abused by Gross Overloading. P. Drinker and K. W. Nelson.—p. 185.

A.M.A. Arch. Internal Medicine, Chicago

92:153-298 (Aug.) 1953

Effect of Nitrogen Mustard on Clinical Course of Glomerulonephritis. D. S. Baldwin, P. G. McLean, H. Chasis and W. Goldring.—p. 162.
Simplified Method for L. E. Cell Test: Results of Three-Year Study of 700 Tests in Many Disease States: E. L. Dubois.—p. 168.
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*Treatment of Hyperkalemia in Acute Renal Failure Using Exchange Resins. H. C. Knowles Jr. and S. A. Kaplan.—p. 189.
Effect of Therapeutic Irradiation of Carcinoma of Cervix on Liver Function. J. R. Snavely, R. H. Bullington and J. V. Schlosser.—p. 195.
*Treatment of Rheumatoid Arthritis with *p*-Aminobenzoate and Acetylsalicylic Acid. C. J. D. Zarafonetis, W. A. Steiger, I. W. Ginsburg and A. J. Heather.—p. 204.
Streptobacillus Moniliformis Infection Complicated by Acute Bacterial Endocarditis: Report of Case in Physician Following Bite of Laboratory Rat. M. Hamburger and H. C. Knowles.—p. 216.
Residuals of Yellow Fever Vaccine After 10 Years: Medical and Legal Problem. I. B. Brick.—p. 221.
Effect of Hexamethonium (C_6) on Renal Hemodynamics in Man. T. D. Ullmann and D. Diengott.—p. 228.
Toxicity of Polymyxin B: I. Animal Studies with Particular Reference to Evaluation of Renal Function. J. H. Moyer, L. C. Mills and E. M. Yow.—p. 238.
Id.: II. Human Studies with Particular Reference to Evaluation of Renal Function. E. M. Yow and J. H. Moyer.—p. 248.
Cardiac Involvement in Malignant Lymphoma. J. D. N. Nabarro.—p. 258.
Fat-Loading Studies in Relation to Age. J. Herzstein, Chun-I Wang and D. Adlersberg.—p. 265.
Review of Neuropsychiatry. S. Cobb.—p. 273.

Treatment of Hyperkalemia in Acute Renal Failure.—Of 10 patients with acute renal failure and oliguria who were treated by conservative methods, 4 were given an ammonium carboxylate cation exchange resin free from potassium by mouth. Three adults were given approximately 50 gm. of the resin daily, and the child 20 gm. daily. The resin mixed with dextrose and water to form a not unpalatable pasty mixture was given hourly or every other hour to prevent undue nausea and to cause greater dispersion of the resin throughout the intestine. The daily serum potassium concentration uniformly rose in the patients receiving no resin. In the patients receiving resin, the levels fell uniformly. Excretion of potassium in the stool in one patient receiving resin amounted to 215 mEq. over four days. Though all the patients receiving resin were nauseated to some degree, they tolerated the resin well. The authors conclude that cation exchange resins constitute an efficient means of reducing hyperkalemia or preventing its occurrence.

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Titles marked with an asterisk (*) are abstracted.

Treatment of Rheumatoid Arthritis.—Forty-four patients with active rheumatoid arthritis were treated with a combination of *p*-aminobenzoate and acetylsalicylic acid. The potassium salt of *p*-aminobenzoic acid was given in six doses daily of 2 gm. each. Generally 20 cc. of a 10% solution of potassium *p*-aminobenzoate was taken with each meal and midmorning, midafternoon, and at bedtime. Acetylsalicylic acid was administered in a dosage of 0.6 gm. four times daily taken at mealtime and at bedtime. Some patients also received 25 mg. of cortisone daily, but the combined use of the small amounts of the latter drug with *p*-aminobenzoic acid and acetylsalicylic acid did not result in any significant change in eosinophil counts or in 17-ketosteroid excretion. Of the 44 patients, 34 (77%) showed functional improvement evidenced by increased range of motion, striking weight gain, and diminution in joint heat, swelling, pain, and tenderness. Although striking improvement was occasionally seen after two or three weeks, the more usual course was a gradual betterment that culminated in significant improvement after three months of treatment. This improvement was maintained for from 6 to 18 months. Untoward reactions were minimal and readily reversible when use of the drugs was discontinued. Three patients had relapses when placed on placebo therapy. Two of these were treated again, with highly satisfactory suppression of the disease process. Three additional patients had relapses when treatment was stopped deliberately or because of intercurrent illness. Resumption of therapy was again followed by improvement. These observations seem to indicate clearly that the relationship between therapy and response has been too consistent to be attributed to chance remission. It should be stressed, however, that this treatment program does not cure rheumatoid arthritis. It appears logical to conclude that a true synergism is exerted by high dosage of *p*-aminobenzoate with acetylsalicylic acid. The combined use of these drugs is suppressive therapy, which frequently results in significant functional improvement.

A.M.A. Arch. Neurology and Psychiatry, Chicago

70:137-276 (Aug.) 1953

Relation of Recovery of Sensation to Intraspinal Pathways in Injuries of Spinal Cord. L. J. Pollock, B. Boshes, M. Brown and others.—p. 137.
*Myoclonus Epilepsy as Symptom of Diffuse Neuronal Disease. C. W. Watson and D. Denny-Brown.—p. 151.
Hereditary Ataxia: Difference Between Progeny of Male and Female Affected Members and Definition of Certain Signs Useful in Detecting Disease Prior to Onset of Clinical Symptoms. J. W. Schut and J. A. Böök.—p. 169.
Effects of Chronic Barbiturate Intoxication on Motivation and Muscular Coordination. H. E. Hill and R. E. Belleville.—p. 180.
Craniopagus Parietalis: Report of Case. E. G. Robertson.—p. 189.
Source and Nature of Nerve Fibers in Cat Cornea. F. C. Rodger.—p. 206.
Unipolar Anodal Electrolytic Lesions in Brain of Man and Cat: Report of Five Human Cases with Electrically Produced Bulbar or Mesencephalic Tractotomies. W. H. Sweet and V. H. Mark.—p. 224.
Mobilization of Glucose by Phlorhizin in Patients with Mental Disorders. M. D. Altschule, H. U. Grunebaum, B. H. Parkhurst and E. P. Siegel.—p. 235.
Morphology of Testes in Schizophrenia. G. Tourney, W. O. Nelson and J. S. Gottlieb.—p. 240.
Ventricular Displacement and Electroencephalographic Focus in Multiple Sclerosis. P. A. Lindstrom.—p. 254.
Cerebral Circulation and Metabolism in Multiple Sclerosis: Correlative Observations by Electroencephalography and Psychodiagnostic Testing. P. Scheinberg, L. I. Blackburn, S. C. Kaim and C. A. Stenger.—p. 260.
Glutamine, Glutamic Acid, and γ-Aminobutyric Acid in Cerebrospinal Fluids. S. Ludewig.—p. 268.

Myoclonus Epilepsy in Diffuse Neuronal Disease.—Watson and Denny-Brown state that Unverricht and Lundborg described a progressive familial syndrome of myoclonus epilepsy, the fully developed form of which was additionally characterized by progressive dementia, pseudobulbar paralysis, rigidity, and, in the late stages, quadriplegia in flexion. Diverse types of nerve cell changes have been reported in patients with this syndrome, either diffuse, "primary atrophy" or diffuse cellular changes characterized by cellular inclusions. Though descriptions of myoclonus epilepsy almost always refer to the curious dark-staining "amyloid" inclusions, this type appears to be extremely rare. A more frequent finding has been the lipoidal inclusions characteristic of amaurotic familial idiocy. Juvenile amaurotic familial idiocy has been recognized as a distinct clinical type of lipidosis of the nervous system. It is to be distinguished from the infantile form of amaurotic familial idiocy, the infantile and juvenile forms never having been reported in the same family. The appearance of epilepsy in childhood, between the ages of 6 and 12 years, in association with a progressive extrapyramidal type of rigidity, leading to dysarthria and dystonic abnormalities of gait and ultimately to a state of general flexion contracture of the limbs and body, has often been described in this disease. Nearly all patients with juvenile amaurotic familial idiocy are reported to have had epileptic seizures. There is frequent mention of sudden jerking of the limbs. Few authors have noted that such myoclonic jerking movements bring this familial disease within the clinical definition of myoclonus epilepsy. Two families exhibiting the syndrome of progressive myoclonus epilepsy are described. Two siblings of family 1 displayed the typical syndrome of progressive familial myoclonus epilepsy of the type described by Unverricht and Lundborg. An affected member of family 1 was found to have diffuse neuronal lipidosis ("cerebromacular degeneration"). Neither of the affected siblings had visual defect or pathological change in the fundus. Family 2 differed from family 1 in several important respects: Epileptic attacks in the form of self-limiting seizures of childhood occurred in one generation and partial or arrested forms of the syndrome in the other. The syndrome followed a more benign and remitting course than that in family 1. The pathological process in the second family was not verified, but a review of the problem of myoclonus epilepsy indicates that it uniformly results from diffuse neuronal disease.

A.M.A. Arch. Otolaryngology, Chicago

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Carcinoma of Middle Ear and Mastoid. J. W. Wahl and M. T. Gromet.—p. 121.
*Ménière's Syndrome: Further Observations on Vitamin Deficiency as Causative Factor. M. A. Atkinson.—p. 127.
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Bilateral Abductor Paralysis: Survey of 521 Cases of Arytenoidectomy Via Open Approach as Reported by 90 Surgeons. D. Woodman.—p. 150.
*Sinusitis as Focus of Infection in Uveitis, Keratitis, and Retrobulbar Neuritis. F. L. Weille and R. R. Vang.—p. 154.
Sugar and Chloride in Fluid from Intranasal Cysts. J. C. Lillie.—p 166.
Septoplasty for Correction of Deviation of Nasal Septum. J. S. Stovin.—p. 168.
Effects of Chromates on Nose, Throat, and Ear. J. B. Miller.—p. 172.
Cysts of Larynx. D. J. Morgenstern and A. M. Lasala.—p. 179.
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Complete Obstruction of Esophagus by Weight-Reducing Tablet. J. Hedayaty and C. R. Shuman.—p. 190.
Treatment of Mixed Tumor of Tongue with Radioactive Chromic Phosphate Solution. C. S. Mumma.—p. 192..
Functional Examination of Hearing. A. Lewy, S. L. Shapiro and N. Leshin.—p. 205.

Ménière's Syndrome.—Atkinson reported in 1949 and 1950 investigations along nutritional lines in 87 patients with Ménière's syndrome. These studies demonstrated that patients can be divided by means of a histamine skin test into three groups: one in which the mechanism is primarily vasoconstrictor; another in which the mechanism is vasodilator; and a third, an intermediate group, in which the attacks are now one and now the other. All three groups show signs of chronic severe deficiency of the vitamin B complex; the signs in the vasoconstrictor group are those of a predominant nicotinic acid deficiency; the signs in the vasodilator group are those of a predominant riboflavin deficiency; and the signs in the intermediate group are those of a mixed deficiency of both nicotinic acid and riboflavin. All three groups show some evidence of thiamine deficiency, but this does not appear to be the determining factor. The attacks of vertigo can be controlled by administration of the appropriate vitamins in suitable dosage, and tinnitus often can be considerably improved and occasionally entirely relieved with the same regimen, but deafness can only rarely be modified. This therapeutic regimen together with attention to proper dietary habits also greatly improved the general health of the patients. An additional group of 105 patients has been investigated along identical lines and the clinical observations and the therapeutic results confirm those previously described. It is now the author's practice in every case of Ménière's syndrome to obtain a detailed record of the intake of food, fluid, alcohol, and drugs and of the use of tobacco for seven consecutive days and a history of dietary habits in general in the past, special dietary restrictions if any, and so on. When such a record is taken it is surprising to find how inadequate in many essentials, how ill-balanced and often injudicious is the diet even of people who might be expected to know and to do better. Patients in the age group in which Ménière's syndrome commonly arises, 40 to 60, require a high protein, high vitamin, moderate to low carbohydrate, and low fat diet. It is a rarity to find such a diet. Yet if patients with Ménière's syndrome are to be restored to full health and efficiency and not merely relieved of their attacks, insistence on such a diet is essential.

Sinusitis as Focus of Infection in Eye Lesions.—Weille and Vang point out that questioning of the eye surgeons at the Massachusetts Eye and Ear Infirmary revealed that none denied the possibility of sinus foci in causing eye disease, but they considered such a relationship to be rare. Infected teeth, tonsils, and prostates were most commonly held responsible, but the sinuses only rarely and then usually by direct extension of infection to the orbit. The pathological physiology of a sinus focus of infection is discussed. Attention is given to toxemia, lymphangitis and bacteremia, bacterial allergy, nasal reflexes in relation to the eye, and direct extension. The files of the Massachusetts Eye and Ear Infirmary were searched for cases of uveitis, optic neuritis, and keratitis, and efforts were made to determine which patients had undergone a search made for foci of infection and more particularly for sinus infection. Of 668 cases studied, there were 427 of uveitis, 43 of optic neuritis, and 198 of keratitis. The three groups of patients are discussed not only with regard to the presence of foci of infection, particularly in the sinuses, but also with regard to the effects of surgical treatment of the sinus lesions on the eye lesions. The authors gained the impression that if the sinusitis is such as to require treatment on its own merits, whatever management is indicated, whether medical or surgical, should be carried out. The attempt to eradicate sinus disease in order to cure uveitis may be undertaken if the rhinologist, the ophthalmologist, and the patient all understand clearly that such therapy only occasionally is useful as far as the eye disease is concerned. Controversy rages regarding the importance of sinusitis in keratitis, especially in that complicating corneal transplants. Ophthalmologic surgeons at the Massachusetts Eye and Ear Infirmary are skeptical of any basic relationship. As regards retrobulbar neuritis, the authors say that dehiscences in posterior ethmoid cell walls in close relationship to the optic nerve are common. Posterior ethmoiditis is extremely common in clinical practice, but its association with retrobulbar neuritis is rare. This is true also of sphenoiditis, although sphenoidal dehiscences in relation to the optic nerve and optic chiasm are frequent. Of 38 cases of retrobulbar neuritis in which search for foci was carried out, sinusitis could be found in only 4. In one it was an obvious cause of retrobulbar neuritis incidental to massive infection, which caused death within one week.

American J. Digestive Diseases, Fort Wayne, Ind.

20:221-250 (Aug.) 1953

Correlation of Roentgenological Studies with Certain Clinical Symptoms in Peptic Ulcer. F. J. Lust.—p. 221.
Localization and Management of Acutely Swallowed Foreign Body in Esophagus. M. Feldman.—p. 228.
Clinical Experiences with New Spasmolytic Drug, J. B. 305. B. Weinberg, R. Ginsberg and H. Sorter.—p. 230.
Comparative Study of Banthine and of Antrenyl in Treatment of Duodenal Ulcer. B. J. Weinberg and R. Ginsberg.—p. 232.
Investigation of Enteric Infections in Caribbean Area: 2. Distribution of Salmonella Strains in Curacao, Jamaica and Costa Rica. O. Felsenfeld, V. M. Young, F. J. Rutten and others.—p. 233.
Id.: 3. Distribution of Shigella Strains in Jamaica and Costa Rica. O. Felsenfeld, V. M. Young, L. S. Grant and S. Ferreira.—p. 237.
An Evaluation of Prantal in Management of Patients with Resistant Chronic Duodenal Ulcer. W. J. Snape and R. L. Sharp.—p. 238.
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CCK Treatment for Syndrome of Vague Abdominal Distress, Symptomatic and Roentgenographic Study. T. M. Feinblatt and E. A. Ferguson Jr.—p. 242.

American Journal of Ophthalmology, Chicago

36:1025-1188 (Aug.) 1953

Effect of Adrenal Cortex Hormonal Therapy on Experimental Brucella Uveitis. R. M. Wood, B. Becker and A. C. Woods.—p. 1025.
Pathogenesis of Exophthalmos. M. J. Reeh and M. *Singer.—p. 1043.*
Ocular Changes in Thyrotropic Exophthalmos. G. O. Dayton Jr.—p. 1049.
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Results of Surgery for Low-Tension Glaucoma. S. Bloomfield.—p. 1067.
Daviel: Modern Surgeon. H. R. Hildreth.—p. 1071.
Some Phenomena Associated with Amblyopia. N. S. Jaffe and F. W. Brock.—p. 1075.
Residual Accommodation: Method for Its Objective Determination: With an Analysis of Several Different *Cycloplegics, Especially* Homatropine (Five Percent) in Methylcellulose and Zephiran. R. H. Rasgorshek. —p. 1086.
Prevention of Infection in Ophthalmic Surgery: Further Studies. M. H. Post Jr.—p. 1091.
Sympathetic Ophthalmia: History of Its Pathogenic Studies. H. H. Joy. —p. 1100.

American Journal of Physiology, Washington

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Normal Disappearance Curve of Emulsified Fat from Blood Stream and Some Factors Which Influence It. W. R. Waddell, R. P. Geyer, I. M. Saslaw and F. J. Stare.—p. 39.
Influence of Protamine on Alimentary Lipemia. J. J. *Spitzer.*—p. 43.
Certain Metabolic Effects of Niacin and Priscoline. R. G. Janes.—p. 46.
Effects of Acidosis on Metabolism of Fructose. B. Mackler and G. M. Guest.—p. 54.
Effect of 400 Fractional Whole Body γ-Irradiation in Burro (Equus Asinus Asinus). B. F. Trum, T. J. Haley, M. Bassin and others. —p. 57.
Iodine Concentration in Rabbit Kidneys After Diodrast *Injection:* Mechanism of Renal Tubular Excretion. B. Josephson and J. Kallas. —p. 65.
Heat and Hydropenia; Their Effects on Thirst and Chloride Regulation in Dogs. G. S. Kanter.—p. 95.
Influence of Anesthesia on Cortical Irradiation and Reflex Myoclonus. J. K. Merlis and C. Lombroso.—p. 135.
Brain Metabolism During Acclimatization to High Altitude. H. G. Albaum and H. I. Chinn.—p. 141.
Effect of Sympathomimetic Drugs on Q-T Interval and on Duration of Ejection. J. W. Remington and R. P. Ahlquist.—p. 165.
Intestinal Blood Flow in Curarization. L. H. Elwell and J. W. Bean. —p. 185.

Am. J. Roentgenol. & Rad. Therapy, Springfield, Ill.

70:365-542 (Sept.) 1953

Investigations into First Effects of Roentgen Rays on Living Protoplasm as Studied with Modern Fluorochromes. S. P. Strugger, A. T. Krebs and Z. S. Gierlach.—p. 365.
*Recurrences and Metastases in Cancer of Breast: An Analysis of 100 Cases. P. W. Hoffert and E. P. Pendergrass.—p. 376.
Signal Skeletal Metastases from Renal Carcinoma: Report of Three Cases with Special Roentgen Features. C. W. McClanahan and L. J. Bonann.—p. 387.
On Accessory Ossicles of Supraoccipital Bone: Some Newly Recognized Roentgen Features of Normal Infantile Skull. J. Caffey.—p. 401.
Familial Metaphyseal Dysplasia. M. B. Hermel, J. Gershon-Cohen and D. T. Jones.—p. 413.
Paradoxical Crossing of Radius in Anteromedial Dislocation of Head of Radius to Give Supination Contracture of Forearm. M. Burman. —p. 422.
Volvulus of Esophagus. C. M. D'Alessio.—p. 425.
*Primary Amyloidosis with Involvement of Stomach. R. N. Cooley. —p. 428.
Saline Concentration in Cholecystography. P. S. Friedman and L. Solis-Cohen.—p. 437.
Radiation Hazard During Angiocardiography. W. Dubilier Jr., H. W. Burnett, C. T. Dotter and I. Steinberg.—p. 441.
Simultaneous Biplane Cerebral Roentgenography. W. B. Seaman, W. G. Scott and W. D. Henry.—p. 445.
Pathology of Fracture of Femoral Neck Following Irradiation. M. Bonfiglio.—p. 449.
Roentgen Therapy Through Grid for Advanced Carcinoma. J. R. Freid, A. Lipman and L. E. Jacobson.—p. 460.
Toxicity of Polonium 210 in Mice: I. 30 Day LD_{50}, Retention, and Distribution. M. P. Finkel, W. P. Norris, W. F. Kisieleski and G. M. Hirsch.—p. 477.

Recurrences and Metastases in Cancer of the Breast.—One hundred women with cancer of the breast, one of whom is living at the present time, are reviewed with special emphasis on the time of appearance of recurrences and metastases after the estimated onset of the disease. The peak age incidence was in the 40 to 50 year group. Of the 100 patients, 76 were given surgical treatment combined with roentgen therapy, 15 had roentgen therapy alone, 6 had surgical treatment alone, and 3 had no treatment of any kind. Roentgen therapy added to surgical treatment did not improve the survival rate. The arithmetical mean number of years between the estimated onset of the disease and death for the group as a whole was three to four years. The arithmetical mean number of years between the estimated onset of the disease and the appearance of recurrences or metastases was two to three years. Of the 100 patients, 92 had recurrences or metastases, 67 of the 92 had one recurrence or metastasis, 19 had two recurrences or metastases, and 6 had three or more recurrences or metastases. By considering the interval of time between the estimated onset of the disease and the appearance of the first, second, third, or more recurrences or metastases it was calculated that 70 to 90% of those patients in whom recurrences or metastases from cancer of the breast develop will have the first recurrence within three years after the onset of the disease. Of those patients who have two or more recurrences or metastases from cancer of the breast, 59 to 96% will have these within four years after the estimated onset of the disease. In the 100 patients studied no clear cut cyclic tendency in the appearance of recurrences or metastases was demonstrated.

Primary Amyloidosis with Involvement of the Stomach.—According to Cooley, primary amyloidosis is a rare disease that most frequently involves the heart, but, in addition, often invades the stomach and the remainder of the gastrointestinal tract. Despite the high incidence of gastrointestinal involvement, definite signs or symptoms of involvement of the stomach, which dominated the clinical picture, were observed in only seven cases collected from the literature. In these cases hematemesis, abdominal pain, and vomiting secondary to pyloric obstruction were most frequent. Changes observed in the stomach at autopsy were (1) infiltration of amyloid in the adventitia and ambient areas of the small blood vessels in the submucosa; (2) replacement of the portions of the muscular wall of the stomach by amyloid; (3) atrophy of the mucous membrane of the stomach that is usually extensive and associated with necrosis, degeneration of the glandular cells, and infiltration of amyloid between the cells; (4) multiple erosions of the mucous membrane with hemorrhage, and (5) ulceration of the stomach wall similar to that seen in peptic ulcer. The occurrence of primary amyloidosis with involvement of the stomach is reported in a 59-year-old man whose case was similar in many respects to the seven cases collected from the literature. There was roentgenologic evidence of an ulcer 2 cm. in diameter on the lesser curvature of the stomach. The lesion healed rapidly on a medical regimen and could not be demonstrated at operation five weeks later. This ulceration was in close relationship to an area of pronounced amyloid thickening of the stomach wall. A complicating feature was that symptoms first appeared and the ulcer was first noticed while the patient was receiving doses of from 200 to 160 mg. of corticotropin (ACTH). A tendency toward ulceration of the area of amyloid infiltration probably was enhanced by the administration of corticotropin. There is a pronounced similarity of the roentgenologic manifestations of amyloid deposits in the stomach to those seen in gastric cancer. It is impossible to differentiate between the two on roentgenologic evidence alone. In no case recorded in the literature has the amyloid deposit in the stomach been an isolated occurrence, but this does not clarify the issue since carcinoma of the stomach may occur in the presence of diffuse amyloidosis.

Bulletin of Johns Hopkins Hospital, Baltimore

93:65-146 (Aug.) 1953

Behavior and Temporal Rhinencephalon in the Monkey. A. E. Walker, A. F. Thomson and J. D. McQueen.—p. 65.

Filter Paper Electrophoresis of Human Hemoglobins with Special Reference to Incidence and Clinical Significance of Hemoglobin C. E. W. Smith and C. L. Conley.—p. 94.

Studies of Extrahepatic Biliary Obstruction in White Mouse by Fluorescence Microscopy. A. L. Grafflin and V. E. Chaney Jr.—p. 107.

Circulation, New York

8:161-320 (Aug.) 1953

*Rheumatic "Activity" as Judged by Presence of Aschoff Bodies in Auricular Appendages of Patients with Mitral Stenosis: I. Anatomic Aspects. J. P. Decker, C. Van Z. Hawn and S. L. Robbins.—p. 161.

*Hypertension and Coronary Occlusion. A. M. Master.—p. 170.

Pulmonary Function in Rheumatic Heart Disease and Its Relation to Exertional Dyspnea in Ambulatory Patients. J. R. West, H. A. Bliss, J. A. Wood and D. W. Richards Jr.—p. 178.

Critical Evaluation of Hypotensive Action of Hydrallazine, Hexamethonium, Tetraethylammonium and Dibenzyline Salts in Human and Experimental Hypertension. A. P. Shapiro and A. Grollman.—p. 188.

Hemodynamic Effects of Hypotensive Drugs in Man: IV. 1-Hydrazinophthalazine. E. D. Freis, J. C. Rose, T. F. Higgins and others.—p. 199.

*Further Observations on Effects of Autonomic Blocking Agents in Patients with Hypertension: I. General Systemic Effects of Hexamethonium, Pentamethonium, and Hydrazinophthalazine. D. Grob and H. G. Langford.—p. 205.

Effect of Dibenzyline on Skin Temperature, Peripheral Blood Flow, and Vasomotor Responses in Normal Patients and Patients with Increased Vasoconstrictor Tone. M. Moser, D. Watkins, N. Morris and others. —p. 224.

Comparison of Direct and Indirect Blood-Pressure Determinations. L. N. Roberts, J. R. Smiley and G. W. Manning.—p. 232.

Parasystole. A. Pick.—p. 243.

Effect of Threshold Electrical Stimulus Upon Repolarization Process of Left Ventricle of Intact Dog Heart. L. H. Nahum, H. Levine, H. Geller and R. Sikand.—p. 253.

Atabrine in Ventricular Tachycardia. A. M. Samia and M. M. Alimurung. —p. 257.

Spatial Orientation of Plane Including Mean QRS and T Vector of Normal Electrocardiogram. N. Kimura.—p. 261.

Circulatory Response to Valsalva Maneuver of Patients with Mitral Stenosis With and Without Autonomic Blockade. D. G. Greene and I. L. Bunnell.—p. 264.

Kinetocardiogram: I. Method of Recording Precordial Movements. E. E. Eddleman Jr., K. Willis, T. J. Reeves and T. R. Harrison. —p. 269.

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Long-Range Observations of Sodium Exchange in Patients with Congestive Heart Failure. J. A. Lusk III and S. D. Palmer.—p. 282.

Diagnosis and Prevention of Bacterial Endocarditis. A. L. Bloomfield. —p. 290.

Aschoff Bodies in Auricular Appendages of Patients with Mitral Stenosis.—A total of 183 left auricular appendages that were removed during interventions for mitral stenosis were studied to detect the presence of Aschoff bodies. The authors found them in 83 (45.3%) of the appendages. They were located within the endocardium and oftener in the loose-structured subendocardium. This incidence of Aschoff bodies does not differ greatly from that found by other authors at autopsy on patients with rheumatic heart disease. The authors studied 172 of these appendages to detect the presence of old or recent thrombosis. Both types of thrombi were found, but old organized thrombi were commoner. There was thrombosis in 71 (41.3%) appendages, and Aschoff lesions were present in only 7 of these 71. These findings are in agreement with those of other workers who have reported a decreased incidence of rheumatic activity in the presence of auricular thrombosis. Autopsy was performed on 22 of the patients of this study, including 6 in whose appendages Aschoff bodies were found. Autopsy revealed these bodies in the remainder of the heart of five of these six patients. Although the number of patients studied is too small for a final statement, the authors conclude that the presence of Aschoff bodies in the auricular appendage is paralleled by their presence in the rest of the heart and, as in their cases, they are located mainly in the left ventricular myocardium.

Hypertension and Coronary Occlusion in Men and Women.—The author studied 500 men and 100 women (consecutive private patients), all under the age of 65, with coronary occlusion to reexamine the problem of the relationship between hypertension and coronary disease. The blood pressure had been recorded before the attack in 478 of these patients. For the others informations were given by the referring physicians or by the patients themselves. The author based his study on the new limits of hypertension that Master, Dublin, and Marks recently established with respect to a person's age and sex. They based their values on a study in which they sampled and analyzed statistically the blood pressure readings of 74,000 working men and women between the ages of 16 and 65 years. According to their new values, almost half of the men (48.6%) had the coronary attack between the ages of 50 and 60 years (average age, 51.1 years). Only 27% of them had had hypertension before the occurrence of coronary occlusion, and it had increased slightly, if at all, with age. More than 70% of them had had normal blood pressure, thus suggesting that if hypertension is at all a factor causing coronary occlusion in men it is not the most important factor. Women had the coronary attack at a later age (average age, 54.8 years). Hypertension had been present in 71% of them before the occlusion occurred. It thus appears to be a definite factor in producing coronary disease among women. A recent postmortem study by Zeman and Schwartz confirmed these findings. Hypertension does not seem to be a factor responsible for coronary disease and occlusion in men, whereas it is a definite factor for their causation in women. In previous studies on hypertension in women it was found that arterial tension is slightly higher in women, beginning at the age of 45 to 50, than in men. The difference is small but distinct. Whether it is sufficient to initiate or accelerate the process of atherosclerosis in women at the age of 55 to 60 is questionable. The serum cholesterol and S_f 12-20 lipoprotein ratios are higher in patients with hypertension, and they may be factors through which hypertension accelerates atherosclerosis.

Methonium Salts and Hydrazinophthalazine in Hypertension.—The authors report the effects of hexamethonium and pentamethonium administered intravenously and orally and of hydrazinophthalazine administered alone and concurrently with hexamethonium to patients with hypertension. Oral and intravenous administration of hexamethonium or pentamethonium caused an initial moderate reduction in blood pressure. The initial response was greater in patients with malignant hypertension who had reduced serum concentration of sodium or severe encephalopathy. The response to the drugs was increased by sodium depletion or severe encephalopathy. The methonium salts inhibited the ganglionic conduction with reduction of sympathetic vasoconstrictor tone and partial inhibition of reflexes through the sympathetic and parasympathetic nervous systems. Continued oral administration of the drugs caused diminished response to either drug. The effects of reduction in pressure by oral administration of hexamethonium were renal insufficiency terminating in uremia, evidence of myocardial and renal ischemia, and transient loss of vision. Since all the patients in whom these effects occurred had malignant hypertension, it is suggested that the danger of reduced blood flow to the kidneys, heart, retina, and brain is greater in these patients. Side-effects of the drugs were dryness of the mouth, slight blurring of vision, increased warmth of the extremities, and chilly sensations. They were mild and did not require any therapeutic measure. Hydrazinophthalazine produced a slight to moderate reduction in pressure in about half the patients studied. With concurrent administration of hexamethonium the reduction in pressure was greater than when either drug was given alone. Tolerance to the hypotensive effect of the drug developed more slowly, and the postural hypotension was less pronounced than that following hexamethonium given alone. Similar degrees of postural hypotension appeared to be somewhat better tolerated. The effect of the two drugs on the blood pressure appeared to be approximately additive in most patients. In none of the patients was there more than mild and transient reduction of renal function following reduction in blood pressure by hydrazinophthalazine or by this drug combined with hexamethonium. Although it did not increase the renal blood flow significantly, hydrazinophthalazine appeared to lessen the effect of reduced blood pressure by intravenous administration of hexamethonium on renal blood flow and glomerular filtration. The side-effects of hydrazinophthalazine were headache and conjunctivitis, sometimes hiccups and elevated temperature. Concurrent administration of this drug and hexamethonium enables a greater and more prolonged reduction in blood pressure than administration of hexamethonium alone, and fewer untoward effects may occur after comparable reduction in blood pressure. It may also be desirable to administer hydrazinophthalazine before hexamethonium.

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Indiana State Medical Assn. Journal, Indianapolis

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Urinary Steroid Excretion after Total Adrenalectomy: I. Levels of 17-Ketosteroids in Cancer Patients Maintained on Varying Amounts of Cortisone Acetate and Glycyrrhizin. P. B. Hudson, A. Mittelman and P. Mann.—p. 1064.
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X-Ray Treatment of Malignant Exophthalmos: Report on 28 Patients. W. H. Beierwaltes.—p. 1090.
*Successful Treatment of Case of Cushing's Syndrome by Electrocoagulation of Hypophysis. B. Arner, R. Luft, H. Olivecrona and B. Sjögren.—p. 1101.
Quantitative Effect of Cortisone Upon Ketosteroid Excretion and Clinical Picture of Adrenogenital Syndrome. H. S. Kupperman, R. Finkler and J. Burger.—p. 1109.
Arthritis and Panhypopituitarism. M. Sugar.—p. 1118.

Electrocoagulation of Hypophysis in Cushing's Syndrome.—A typical advanced case of Cushing's syndrome is described in a 24-year-old woman. She was given two courses of irradiation of the hypophysis, one in July and one in November, 1943; 1,500 r were given in each of the two series and resulted in the disappearance of all symptoms of the syndrome by the beginning of 1944. Symptoms reappeared during the spring of 1948 and she was again treated by irradiation of the hypophysis in September, 1948, with some temporary improvement. On examination in April, 1950, the disease was more advanced and retreatment with massive doses of roentgen rays (4,500 r) was ineffective. There was pronounced obesity of the buffalo type with thin extremities and a fullmoon face. Pronounced hypertrichosis was localized in the face, thorax, abdomen, and extremities. The patient had numerous purple striae on the hips and abdomen, ecchymoses, and severe acne of the face and upper thorax. Blood pressure at rest was 200/130 mm. Hg, and the heart was enlarged to the left. There was increased excretion of reducing corticoids. An adrenocortical tumor had been excluded in 1943 by means of perirenal insufflation of air and palpation of the adrenal glands at an exploratory laparotomy. In June, 1951, an attempt was made to destroy the hypophysis by electrocoagulation in order to abolish the presumed hypersecretion of the adrenocorticotropic hormone. The pituitary region was exposed by a rather small pituitary flap and the arachnoid in the cisterna chiasmatica removed as completely as possible. Electrocoagulation of the pituitary gland was then performed in two stages with an interval of 10 days. During the first stage electrocoagulation was carried out in 7 different places and in 13 during the second stage. All symptoms remained unchanged after the first stage, but rapid improvement, which was obvious after 10 days, occurred after the second operation. Three weeks after the last operation the patient had her first menstruation in three and a half years. Menstruation has remained regular since, the patient continued to lose weight, blood pressure showed a gradual decline, and her habitus became normal. She became pregnant 14 months after the operation, a legal abortion was performed, and menstruation reappeared the next month. The patient is still healthy 19 months after the operation. The electrocoagulation did not cause complete destruction of the pituitary gland, as the gonads, thyroid, and adrenals showed normal function. The result of the operation, i. e., the clinical cure of the patient in association with normally functioning hypophysis and adrenal cortices, strongly suggests the etiological significance of the pituitary gland in this case of Cushing's syndrome.

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Bacterial Meningitis in Infants—Aids to Early Diagnosis and Initial Therapy. G. W. Hallett Jr.—p. 237.
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Maryland State Medical Journal, Baltimore

2:399-482 (Aug.) 1953

*Bleeding Esophageal Varices and Their Surgical Treatment. R. R. Linton.—p. 400.

Bleeding Esophageal Varices.—Esophageal varices are a constant and serious threat to the life of the patient in whom they occur because the exsanguinating hemorrhages following their rupture frequently result in death. The cause of the rupture, which invariably takes place within a few centimeters of the cardioesophageal junction, although the varices may extend the entire length of the esophagus, has never been satisfactorily explained. The incidence of fatal hemorrhage is much higher among patients with esophageal varices secondary to cirrhosis of the liver than it is among those with Banti's disease, who are usually younger. Treatment of patients with bleeding esophageal varices requires emergency control of the hemorrhage, followed by the construction of a portacaval shunt to bring about a permanent reduction in portal hypertension and thus prevent further rupture of the varices. Cardioesophageal tamponade with an intragastric balloon tube, supplemented by immediate transesophageal suture of the varices, is recommended as the best emergency method of controlling the massive bleeding in these patients when it does not stop spontaneously. The great advantage offered by this method is that, once the bleeding is controlled, the patient's condition can be built up more satisfactorily with proper food and vitamins than when any other method is employed. The definitive procedure, or construction of the portacaval shunt, should be undertaken as soon as the patient's condition warrants, usually at the end of three or four weeks. The two types of portacaval shunts that have proved most effective are (1) an end-to-side splenorenal anastomosis with splenectomy, and (2) a direct portal vein-to-inferior vena cava anastomosis. The choice of the type to be used depends largely on the size of the spleen, the condition of the patient, and the degree of liver impairment. A surgeon should not attempt a splenectomy in a patient with bleeding esophageal varices unless he is prepared to carry out a splenorenal anastomosis at the same operation, because it may be his only chance to construct a satisfactory shunt, especially in patients with Banti's disease. Portacaval shunt operations should never be undertaken for the relief of chronic ascites alone. Results obtained by the construction of portacaval shunts in 90 patients treated at the Massachusetts General Hospital since 1945 have been extremely encouraging; 77, or 86%, of the patients survived, an operative mortality rate of 14%. Most of the deaths occurred in the earlier years, so that the mortality rate for the last 60 shunts performed was only 5% (three deaths).

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Juvenile Nasopharyngeal Angiofibroma. S. D. Hemley, A. Schwinger and A. B. Friedman.—p. 1861.
Neurologic Sequelae of Spinal Anesthesia. E. D. Friedman.—p. 1864.
Safe Analgesic Agent Required for Industrial Use. R. J. Murray. —p. 1867.

Plastic & Reconstructive Surgery, Baltimore

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Radiological Demonstration of Zygomatic Arch. D. D. McRoberts.—p. 246.
Nucleoprotein Changes in Gastrointestinal Tract Following Total-Body Roentgen Irradiation. F. W. Tillotson and S. Warren.—p. 249.
Roentgenographic Studies of Osteoporosis: I. Replacement of Common Salt by Balanced Salt in Diet of Rats. J. Gershon-Cohen and J. F. McClendon.—p. 261.

Pulmonary Tension Disorders in Infants and Children.—The primary causes of pulmonary tension rarefactions in the lungs of infants and children are congenital bronchial malformations and acquired interstitial and pleural air cysts. In both groups tension states develop as a result of check valve mechanisms between the distended cavity and its air supply. Differentiation of the acquired from the congenital forms is important to prognosis and treatment, and this is best accomplished by careful correlation of the roentgen and clinical findings. Serial chest roentgenograms are the most important single aid in differential diagnosis. Occasionally bronchography and planigraphy will make possible recognition of these lesions. In the congenital group, complete surgical removal is the only definitive treatment for all but the generalized forms, while the acquired lesions are best treated conservatively. Accurate roentgenologic differentiation of various tension disorders is sometimes impossible but a system of analysis is presented that should allow separation of the surgical from the nonsurgical types.

Review of Gastroenterology, New York

20:601-696 (Sept.) 1953

Evolution and Evaluation of an Acceptable Operation for Peptic Ulcer: (Including Description of Technic of Tubular Gastric Resection with Transverse Gastroplasty, and Extrapleural Sternotomy for Operations in Attic of Abdomen). O. H. Wangensteen.—p. 611.
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Femoral Head Prosthesis. F. R. Williams.—p. 169.
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*Technic for Differentiating and Preserving Protozoa in Feces. A. J. Bucki, W. H. Wells and J. R. Vail.—p. 1195.
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Reflex Anuria. E. M. Tomlin and T. N. Quilter.—p. 1211.
Development of Armed Services Blood, Blood Derivatives, and Plasma Expanders Program. M. M. Link.—p. 1221.
An Appointment Plan in Lieu of Sick Call. R. S. Bigham Jr. and D. S. Wenger.—p. 1227.
Opportunities for Professional Training in Class I Army Hospitals. R. M. Hardaway III.—p. 1235.

Differentiating and Preserving Protozoa in Feces.—A relatively simple method for the identification of the cysts and trophozoites of intestinal protozoa in feces is described. It is based on the wet fixation and staining of the organism with a mixture containing a single dye, brilliant cresyl blue. The staining solution has the following formula: brilliant cresyl blue (N. F. Biological), 2 gm., methanol, 75 cc., formaldehyde (U. S. P.), 5 cc., glacial acetic acid (U. S. P.), 2.5 cc., phenol (U. S. P.), 2.5 cc., and distilled water, 15 cc. After the solution is thoroughly mixed, it is ready for immediate use. No filtration is required. The liquid phenol is prepared by placing a bottle of phenol crystals in a hot water bath until liquefaction occurs. Best results are obtained when the ingredients are used in the proportions as given in the above formula. Should a weaker stain be desired, the solution may be diluted with distilled water. The solution is stable and, if stored in tightly stoppered brown glass containers, may be kept for long periods without deterioration. A small portion of the fecal material is mixed in a large drop of the staining solution on a clean slide. After a smooth emulsion is obtained, a coverglass is applied and an immediate microscopic examination may then be made. When the solution is used as a preservative for fecal specimens, one part of the fresh stool specimen is thoroughly mixed with about five parts of the solution in a glass vial or similar container. Such specimens may be examined weeks later, provided the container has been tightly stoppered. Permanent wet preparations may be made by sealing the cover slide with a ringing material. The authors examined stool specimens with this method and with iron-hematoxylin and found that the wet fixation and staining with the brilliant cresyl blue formula compared favorably with, and in some instances was superior to, the much more complicated iron-hematoxylin procedure.

FOREIGN

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*Effect of Procaine Amide on Cardiac Arrhythmias. N. Boyadjian and F. Van Dooren.—p. 285.
Physiopathological Study of a Case of Mercurial Poisoning. F. Gregoire, J. Brauman, P. P. Lambert and C. de Heinzelen de Braucourt.—p. 298.

Cardiac Catheterization in Chronic Pulmonary Conditions.—The prognostic value of catheterization of the right side of the heart was studied in a series of seven patients undergoing pneumonectomy, lobectomy, or extrapleural pneumothorax. Respiratory function values in all the patients were within the limits usually considered acceptable for the surgical procedures contemplated. Catheterization was performed before the operation in five patients and after it in all seven. Results showed that the interventions had comparatively little effect on the resting pressures in the right side of the heart and that the moderate increases in right systolic pressure seen in patients with chronic pulmonary disease need not be taken as contraindications to operation, because they may disappear after the operation. Study of the pressure in the right side of the heart at rest has, therefore, no prognostic value. The investigation was extended to 28 patients selected at random for whom no operation was proposed. Five of these had moderately advanced tuberculosis, 15 far advanced tuberculosis, 4 pulmonary sclerosis with emphysema, and 4 silicosis. Systolic ventricular and pulmonary arterial hypertension was found in 6 of the 20 patients with tuberculosis, but in spite of the extent of their pulmonary lesions none showed right ventricular insufficiency. Increased pressures were found in the patients with silicosis, all four of whom had severely impaired, enlarged hearts. Decompensation was present in three, and the fourth had sequelae of infarction. The pressure was increased in only one of the patients with pulmonary sclerosis and emphysema. Incipient or moderate right-sided hypertension could not be detected in the electrocardiograms of the patients studied.

Effect of Procaine Amide on Cardiac Arrhythmias.—Study of 28 patients with various types of cardiac arrhythmia confirmed the efficacy of procaine amide as an antiarrhythmic agent. It may be given by intravenous injection at the rate of 1 cc. a minute under electrocardiographic control so that administration can be stopped as soon as the rhythm becomes regular. The quantity injected may be from 300 mg. to 1 gm. The patient should be kept lying down for from 30 minutes to an hour after the injection and additional electrocardiograms should be made every 10 minutes to verify the persistence of the regular rhythm. Oral administration is also possible, but given in the doses of from 4 to 5 gm. daily required for effective suppression of ventricular extrasystoles, it caused significant digestive disturbances in the patients treated. Discontinuance of the drug was followed by recurrent extrasystoles. The need for large doses of procaine amide and the rather short duration of its action impose certain practical limitations on its use. The generally benign character of ventricular and atrial extrasystoles makes its administration in these disturbances of questionable value. Intravenous injections of procaine amide may put an immediate end to an attack of recent atrial fibrillation, but when the fibrillation is of long standing, the action of the drug, even in large doses, is uncertain. Procaine amide is especially valuable in paroxysmal ventricular tachycardia; a dose of 500 mg. effectively stopped an attack in one of the patients in this series, and larger doses may be used when necessary. Supraventricular paroxysmal tachycardia is also relieved by procaine amide; in this condition, its action resembles that of acetylcholine, breaking a vicious circle and thus enabling the heart to maintain a regular rhythm after the drug has disappeared from the blood. No electrocardiographic disturbances were noted, either in the patients or in experimental dogs, when procaine amide was used in therapeutic doses.

Australasian Annals of Medicine, Sydney

2:1-106 (May) 1953

Epidemiology of Enteritis in Young Children. E. Singer and C. G. Ludford.—p. 5.
Cyanotic Heart Disease with Continuous Murmur. E. H. Roche.—p. 17.
Spatial Vectorelectrocardiogram in Left Ventricular Hypertrophy of Hypertension. J. M. Gardiner and T. E. Lowe.—p. 22.
Abdominal Aortography. P. W. Verco and R. F. West.—p. 30.
*Studies in Mitral Stenosis: I. Dynamics of Circulation. R. B. Blacket, A. J. Palmer, B. C. Sinclair-Smith and others.—p. 36.
Id.: II. Electrocardiographic and Röntgenologic Findings. B. C. Sinclair-Smith, R. B. Blacket, A. J. Palmer and others.—p. 55.
Cerebral Angiomatous Malformations. G. C. Moss.—p. 67.
Clinical Detection of Enlargement of Spleen. C. R. B. Blackburn.—p. 78.
Thrombosis and Embolism in Chronic Rheumatic Endocarditis. V. J. McGovern.—p. 81.
Melorheostosis: Its Relation to Associated Conditions and Case Report. A. E. McGuinness, L. C. A. Watson, C. K. Lindsell and K. Inglis.—p. 84.
Phosphorus Poisoning with Cortical Necrosis of Kidney: Report of Two Fatal Cases. J. W. Perry.—p. 94.
Variation from Day to Day in Haemoglobin Value of Young Women. H. Cotter, H. O. Lancaster and R. J. Walsh.—p. 99.
Function of Adrenal Cortex in Rheumatic Fever. S. Wiener.—p. 103.

Dynamics of Circulation in Mitral Stenosis.—The 57 patients with mitral stenosis reviewed in this paper were selected from among 250 patients with rheumatic heart disease seen at the Institute of Cardiology, Royal Prince Alfred Hospital, in Sydney. Mitral stenosis was regarded as predominating on the following evidence: (1) a low rumbling diastolic murmur following the third sound or opening snap, usually with presystolic accentuation in patients with sinus rhythm; (2) a loud first sound at the mitral area; (3) a normal or, more frequently, a diminished left ventricular impulse to palpation; (4) absence of left ventricular preponderance in the electrocardiogram; (5) slight to moderate enlargement of the left auricle on fluoroscopy. The patients were studied by cardiac catheterization, with the use of a single or double lumen catheter. The great majority were in or near the basal state at the time of study. The patients had been placed on clinical grounds in the functional classes of the New York Heart Association. In the resting subject, as one passed from class 2 to class 4, the following changes in the dynamics of the circulation were found: (1) a decrease in valve area; (2) a rise in the arteriovenous oxygen difference and a fall in cardiac output and stroke volume—the oxygen consumption was unchanged; (3) a rise in pulmonary vascular pressure; (4) a rise in right auricular pressure. During exercise pulmonary vascular pressures rose out of proportion to the increase in cardiac output, which was determined chiefly by the laws governing mitral valve flow. On the whole there was a good correlation between the disability and the changes in the pulmonary circulation. On analysis of the data it became clear that patients with mitral stenosis fit into three hemodynamic stages. In the first stage the valve area is between the normal of 4 to 6 and 1.5 square centimeters. Pulmonary vascular pressures and cardiac output are within the normal range at rest; both rise on exercise to a degree determined largely by the severity of the stenosis. In the second stage the valve area is between 1.5 and 0.9 square centimeters. Pulmonary vascular pressures are raised at rest and rise even more on exercise. The cardiac output is maintained at rest by various compensatory mechanisms, the chief of which are probably right ventricular hypertrophy and a slightly raised filling pressure. During light exercise the cardiac output rises less than normally, and in some patients there is also a rise in filling pressure. It is during this second stage that rises in the pulmonary vascular resistance begin to appear. In the third stage the valve area is less than 0.9 square centimeter. Pulmonary vascular pressures are usually four times normal or even more, and the cardiac output at rest is low. The filling pressure has risen in the majority of these patients. During exercise pulmonary vascular pressures and filling pressures rise, but the increase in cardiac output is negligible. In most patients pulmonary vascular resistance rises greatly. Auricular fibrillation is not found usually before the second stage. A small number of patients with sinus rhythm resemble those with auricular fibrillation. The authors admit that the described studies cannot give information about many factors that must influence physicians and surgeons in chosing the optimal time for mitral valvotomy; but it seems advisable to recommend this operation before the cardiac output has fallen and organic changes have appeared in the pulmonary circulation. This would correspond to the stage of dyspnea on light exertion.

British Journal of Dermatology, London

65:235-292 (July-Aug.) 1953

Ocular Pemphigus. R. E. Church and I. B. Sneddon.—p. 235.
Surface Skin Fat in Seborrhoeic Dermatitis. I. S. Hodgson-Jones, R. M. B. Mackenna and V. R. Wheatley.—p. 246.
Skin Disease in British Army in S. E. Asia: I. Influence of Environment on Skin Disease. P. H. Sanderson and J. C. Sloper.—p. 252.
Leishmanide: Report of Case. C. Berlin.—p. 265.
Lichen Sclerosus et Atrophicus in Young Subjects. T. Kindler.—p. 269.

British Medical Journal, London

2:237-296 (Aug. 1) 1953

Chronic Bronchitis: An Introductory Examination of Existing Data. N. Goodman, R. E. Lane and S. B. Rampling.—p. 237.
Place of Hospital in National Health Service. A. Daley.—p. 243.
Relationship of Alimentary Lipaemia to Blood Coagulability. H. W. Fullerton, W. J. A. Davie and G. Anastasopoulos.—p. 250.
Association Between Period of Gestation and Length of Menstrual Cycle. T. McKeown, J. R. Gibson and T. Dougray.—p. 253.
Acute Hypoxic Episode. M. S. Sadove, G. M. Wyant and L. A. Gittelson. —p. 255.
Pyrimethamine ("Daraprim") in Treatment of Vivax Malaria. G. Covell, P. G. Shute and M. Maryon.—p. 258.
Leprosy: Report on Four Cases. J. Rogers and D. G. Adamson.—p. 259.
Case of Leprosy Seen in Venereal Disease Clinic in Britain. J. O. Doyle. —p. 261.

2:297-352 (Aug. 8) 1953

Evolution of Binocular and Stereoscopic Vision in Man and Other Animals. W. Harris.—p. 297.
Aureomycin, Chloramphenicol, and Terramycin in Ophthalmology. A. Sorsby, J. Ungar and R. P. Crick.—p. 301.
*Breast-Feeding in Oxford Child Health Survey: II. Comparison of Bottle- and Breast-Fed Babies. A. Stewart and C. Westropp.—p. 305.
Future of Surgery in Senile Obliterative Arterial Disease. C. Rob.—p. 308.
Unusual Small-Intestinal Causes of Anaemia. J. E. Richardson and A. E. Flatt.—p. 311.
Three Cases of Small-Intestinal Neoplasm with Unusual Clinical Features. P. A. Rechnitzer and J. Blake.—p. 313.
Syndrome of High-Titre Cold Haemagglutination. M. G. Nelson and R. J. Marshall.—p. 314.
Continuous Succinylcholine Chloride with Pethidine in Abdominal Surgery. G. Herington and E. James.—p. 317.
An Unusual Case of Syphilitic Parkinsonism. K. G. Neill.—p. 320.

Breast-Feeding in Oxford Survey.—The progress of 580 babies in the Oxford Child Health Survey was studied in relation to feeding habits. At the age of one year the babies who were bottle-fed from birth were appreciably heavier than the babies who were completely breast-fed for five months or longer. They also showed signs of being slightly maturer. It is suggested that these differences are due to minor degrees of underfeeding among the breast-fed babies. To discover whether the accelerated growth and development in the bottle-fed babies was attended by any increased risk of ill health, the sickness records of the babies were examined. For three disease groups, namely gastroenteritis, bronchitis and bronchopneumonia, and otitis media and tonsillitis, there was no evidence that the duration of complete breast-feeding influenced the over-all infection rates. Gastroenteritis was comparatively rare so long as the babies were receiving nothing but breast milk, but it reached its maximum incidence in the weaning period and was especially common among babies who began to be weaned in the sixth month. Colds, which were most frequent in large households and households with several children of school age, were almost equally common among breast-fed and bottle-fed babies. That breast-feeding has advantages to both mother and child that will never show on a weight chart no pediatrician will seriously deny, but under conditions that prevail today the dangers of bottle-feeding are more potential than real. With artificial feeding now safe and easy, the slightest neglect of the special problems of nursing infants could produce a sharp popular reaction against breast-feeding.

Die Medizinische, Stuttgart

No. 27/28:897-936 (July 11) 1953. Partial Index

State of Cancer Research. H. Lettré.—p. 897.
*Obesity as Diencephalohypophysial Dysregulation. F. Kossmann and E. Pirrung.—p. 908.
Do Coronary Vasodilators Exert a Specific Effect on Myocardium? H. Lachmann.—p. 911.
Observations of Simultaneous Occurrence of Lymphogranulomatosis and Hemolytic Anemia. G. Hennemann.—p. 914.

Obesity as Diencephalohypophysial Dysregulation.—Of 24 obese women with adiposis of the trunk and of the extremities who were admitted to the medical clinic of the university of Homburg, Saar, the pathological obesity had become manifest after pregnancy ending in abortion or delivery in 10 and after menstrual disturbances in 9; one patient had a tumor of the pituitary, and another had been given *p*-acetylaminobenzaldehyde thiosemicarbazone (Amithiozone), which may exert an effect similar to that of cortisone. Physiological or pathological changes of the endocrine system thus were indicated in 21 of the 24 patients. Atrophy of the sex organs could be demonstrated on gynecologic examination in only 8 of the 9 women with menstrual disturbances, and the hypophysis was considered the cause of the obesity after abortion or delivery in 10. The authors believe that obesity in women between the second and fourth decade of life is caused endogenously by diencephalohypophysial dysregulation, while exogenous factors, such as polyphagia, play a secondary part only. This concept was supported by the results of the Staub-Traugott test that revealed pathological changes in the sense of a negative effect in 20 patients with a repeated elevation of the blood sugar level by 40 to 100 mg. per 100 cc. after the second oral dose of detxrose. Results of examination of the carbohydrate metabolism by insulin and epinephrine tests and of the water metabolism by Volhard's gravity test for renal function and by the water test after administration of an extract of the posterior lobe of the pituitary gland and after injection of thyroxin provided additional proof for the authors' concept. Passage of short waves through the region of the pituitary of the patients always caused an increase in the blood sugar level and an increase in granulocytes exceeding the physiological variation; the increase in the blood sugar level was considered as manifestation of a pathological reaction of the pituitary, while the increase in granulocytes was considered as manifestation of stimulation of the diencephalon. The weight of the anterior lobe of the pituitary is greater in women than in men; this, as well as the fact that the weight of the anterior lobe of the pituitary increases by 20% during pregnancy, may explain the predisposition of women to obesity. The increased incidence of obesity in the postwar period may be explained by the functional unity of hypophysis and diencephalon that makes it possible for hormonal dysfunction to be elicited by vegetative stimulation, and a diet deficient in protein may favor this development.

Doc. de Medicina Geograph. et Tropica, Amsterdam

5:97-192 (June) 1953. Partial Index

*Congenital Fibrosarcoma. H. Hartz and T. G. Tablante.—p. 98.
Histoplasmin Test in Surinam. W. A. Collier and A. A. de la Fuente. —p. 103.
Two Cases of Histoplasmosis on Farms Near Paramaribo (Surinam): Investigations into Epidemiology of Disease. A. Wildervanck, W. A. Collier and W. E. F. Winckel.—p. 108.
Some Aspects of Kwashiorkor. E. Janssen.—p. 128.
Chloromycetin Treatment of Salmonella Infections: Results Obtained in 100 Patients. L. P. Kian, H. Smitskamp, T. Thay and D. K. Wielenga. —p. 141.
Steatorrhea and Intestinal Circulation. C. D. de Langen.—p. 157.
Fight Against Lung Cancer. R. Korteweg.—p. 168.

Congenital Fibrosarcoma.—The case reported is that of a baby girl hospitalized at the age of two months with a tumor in the mastoid region that had been present since birth and that had rapidly enlarged. The skin covering the tumor was pale red and shiny and showed dilated veins. The consistency was elastic; the tumor could not be moved freely. As the tumor was growing rapidly, a provisional diagnosis of sarcoma was made, and extirpation was carried out. The tumor bed was treated with electrocoagulation, but the patient died seven days after operation, with symptoms of meningoencephalitis several days before death. The tumor was classified as fibrosarcoma by reason of its structure and of the arrangement of the reticulin fibers and because of the absence of special structures or protoplasmatic differentiations, which would justify a diagnosis of neurosarcoma or of the not so rare rhabdomyosarcoma of the head or neck region. In one of the blocks of tissue, tumor tissue was found in a lymph node and in a lymph vessel. Since the tumor was present at birth and grew rapidly, a diagnosis of congenital fibrosarcoma seemed justified.

East African Medical Journal, Nairobi

30:217-266 (June) 1953

*Endemic Dental Fluorosis in Kenya: Preliminary Report. M. M. Williamson.—p. 217.
Preliminary Report on Dental Fluorosis in Kenya European Children. L. B. Nevill and W. Brass.—p. 235.
Nature and Classification of Onyalai. J. Wilkinson.—p. 243.
Intestinal Obstruction Due to Ascariasis. R. G. Romberg.—p. 251.

Endemic Dental Fluorosis in Kenya.—Williamson feels that the dental signs of fluorosis so far observed in the population of Kenya gives sufficient proof to warrant a fuller inquiry and survey on the following lines: (1) to check and analyze regularly all domestic water supplies, (2) to survey and map in detail endemic areas, (3) to undertake rock analyses for correlation, (4) to correlate the caries incidence with dental fluorosis in East Africa, (5) to publicize the possible serious effects of fluorides from a public health point of view, (6) to take adequate steps to reduce domestic water supplies to concentrations of less than one part per million, and (7) to investigate the possibility of skeletal changes in the indigenous population. Analysis of water supplies shows a predisposition toward high fluoride content. The geological structure of Kenya is such that one would expect high fluoride figures. Large areas of the country are covered by formations due to comparatively recent volcanic action. The surface waters percolate through the soil, in many areas consisting of high percentage of volcanic ash, and then pass through the weathered trachyte tuffs or lavas. Over 4,500 children and adults were examined in different parts of Kenya for signs of the varying degrees of mottled enamel. The degrees of dental fluorosis were classified according to Dean. It is important to note that the teeth are affected only if the ingestion of the fluoride takes place during the time of enamel calcification, that is, up to the age of 8 years, or about 12 if the third molars are to be included. Ingestion after this period then has a cumulative effect on the skeletal structure. The author believes that the medical profession in Kenya should take an interest in the effects of chronic fluoride intoxication. The following are indications of such intoxication: increased density of the bones, diminution of the medullary area, calcification of the ligamentous attachments, osteophytic growths, and exaggeration of the curvatures of certain of the long bones. Nearly 2,000 children with dental fluorosis were seen; the condition is endemic in Kenya and other parts of East Africa.

Edinburgh Medical Journal

60:305-340 (July) 1953

Arteriovenous Malformations of Head. J. Gillingham.—p. 305.
Formation and Operation of Bone Bank in Edinburgh. R. B. Duthie.—p. 316.
Late Results of Treatment of Thyrotoxicosis with Thiouracil Compounds. D. I. Manson.—p. 321.
Fatal Spontaneous Pneumothorax in an Asthmatic Subject. J. T. R. Russell and A. Macfarlane.—p. 331.
*Acute Necrosis of Liver Following Chloramphenicol Therapy. R. Salm.—p. 334.

Acute Necrosis of Liver Following Chloramphenicol Therapy.—The 5-year-old boy whose history is reported was hospitalized while in a delirious condition on June 11, 1951. Death occurred on the day following admission. The family physician stated that the child had been well until nine weeks prior to admission, when whooping cough developed for which he prescribed a single course of chloramphenicol. Unfortunately the total dosage has not been recorded, but presumably it was not higher than 5 or 6 gm. and was spread over about one week. The boy made a rapid recovery. A fortnight before admission jaundice with pale stools was observed and was regarded as infective hepatitis. Jaundice seemed to clear, and the stool became normal in color three days before hospitalization. In the early morning of the day of admission, the boy had a severe epistaxis followed by two attacks of vomiting. He ate a good breakfast, but at noon vomited again, partly bright red blood. Thereafter he became delirious. Autopsy was done 18 hours after death, and microscopic studies disclosed a virtually complete disappearance of the liver parenchyma, the tissues consisting of the somewhat condensed reticulum framework and other mesenchymal elements, while the bile capillaries had survived. Only after searching were some shadows of liver cells found in some areas. An interesting feature was cellular damage in the cortex of the brain similar to that observed in the basal ganglia in kernicterus.

Lancet, London

2:261-304 (Aug. 8) 1953

Evolution of Child Care. J. L. Henderson.—p. 261.
Assessment and Prognosis in Hemiplegia. G. F. Adams and S. G. McComb.—p. 266.
Apnoea for Bronchography in Children. M. E. Browne, K. W. Lovel, C. Raulin and J. P. Rickard.—p. 269.
*Disseminated Sclerosis: Assessment of Effect of Treatment on Course of Disease. N. D. Compston.—p. 271.
Position of Foot in Walking. M. Harty.—p. 275.
Fatal Infection by Chromobacterium Violaceum. P. H. A. Sneath, J. P. F. Whelan, R. B. Singh and D. Edwards.—p. 276.

Disseminated Sclerosis.—Compston points out that most published accounts of the results of treatment of disseminated sclerosis are based on the degree of disability before and after treatment. In a previous report in which he and McAlpine analyzed 1,582 cases of disseminated sclerosis in 414 patients, it was found that 1,221 ended in a remission, leaving little or no increased disability. The end-results of individual episodes are, therefore, a poor criterion of effective treatment. Compston feels that in assessing the effect of medical treatment in disseminated sclerosis the essential criterion is the prevention of fresh relapses. Disability by itself is insufficient evidence. Though ideally an untreated control group should be used for comparison with a treated group, it has been found possible to analyze treated groups by comparing the relapse rate before and after treatment. The results in 57 patients treated by administration of artificial pyrexia and arsenic and in 33 receiving large doses of antihistamine drugs were analyzed. The only firm conclusion that can be drawn from this study is that the administration of artificial pyrexia followed by arsenic, or of arsenic alone, and the administration of antihistamine drugs in high doses, did not, during the limited period of follow-up, alter the relapse rate after treatment as compared with that before treatment. In both groups, however, the treatment was in many cases begun after the disease had been in existence for some years. In both groups the average duration of the disease before treatment began was between seven and eight years. Treatment of any sort must obviously have the highest chance of success if started early, because of the tendency for symptoms once established to progress. But in the small number of cases in which treatment was begun during the first year of the disease there was no difference in the relapse rate between the two groups. A standard method of assessing the degree of disability, during a follow-up of at least five years, is suggested.

Medical Journal of Australia, Sydney

1:905-940 (June 27) 1953

Experience with Infectious Hepatitis at Royal Prince Alfred Hospital. S. Goulston.—p. 905.
*Hepatitis in Childhood: Histological Diagnosis. J. W. Perry.—p. 915.
Osteoarthritis of Hip Joint. F. Stonham.—p. 916.
Adrenals of Koala (Phascolarctos Cinereus) and Their Alleged Relationship to Eucalyptus Leaf Diet. A. Bolliger.—p. 917.

Histological Diagnosis of Hepatitis in Childhood.—Perry calls attention to the difficulty that sometimes arises in determining the cause from the histological picture in children with liver disease. He defines hepatitis as a nonsuppurative process characterized by zonal necrosis and a cellular response predominantly of the nongranular type. The first two cases presented were in children with severe infectious hepatitis and the histological and clinical pictures were in agreement. The second case is noteworthy because it is likely that if the histological diagnosis is correct, this child almost certainly contracted the virus infection in utero. The third case is that of an infant who died soon after a premature delivery. Examination of the liver showed the histological appearance of nodular hyperplasia, indicating that the hepatitis had been progressing for some time in utero before precipitate delivery. However, diagnosis is rigidly histological, and in spite of the exclusion of syphilis and blood group incompatability it is devoid of proof. Two cases of galactose intolerance are mentioned in which the histological picture was that of chronic hepatitis. These demonstrate the flimsy structure of chronic hepatitis as a diagnosis, especially if it is too often reconciled with a virus etiology.

Minerva Pediatrica, Turin

5:265-304 (April 30) 1953. Partial Index

•Punch Biopsy of Liver in Infants: Personal Contribution. G. Sansone and F. De Mattei.—p. 265.
Importance of Radiologic Examination of Skull in Diagnosis of Cerebral Hemiatrophy: Early Radiologic and Stratigraphic Signs. P. Durand.—p. 271.
•Therapeutic Activity of Liver Extracts and Vitamin B_{12} in Children. A. Masi and S. Mori.—p. 290.

Punch Biopsy of Liver in Children.—Punch biopsy of the liver has become a valuable means of diagnosis of hepatic disease in children. The authors report their results in seven children, 1 to 14 years old. These children were given injections of vitamins C and K and barbiturates or opiates 24 hours before the intervention. After they had fasted for 12 hours, a Van-Silverman needle was inserted through a small incision into the 9th intercostal right space under local anesthesia. The procedure did not last more than eight seconds, and a 2 to 3 cm. specimen was easily obtained. The small lesion was not sutured but was protected with sterile gauze and an ice bag was placed on the area while the child was instructed to stay in bed for 12 hours. The histological specimens obtained were far superior to those the authors had obtained from other children by means of needle biopsy. The diagnosis of liver disease was confirmed in each child. There were no complications.

Liver Extract and Vitamin B_{12} in Children.—Liver extracts combined with vitamin B_{12} were used to treat 30 children with acute disease of the respiratory and cardiovascular apparatus. Atrophy, denutrition, asthenia, anorexia, and a pale color of the skin and mucous membranes were present in all these children. The disease had a tendency to become chronic despite the antibiotic, anti-infectious, and dietetic therapies that had been instituted. A first group of 15 infants, 3 to 15 months old, were given 1 gm. of liver extracts and 15 mcg. of vitamin B_{12} orally at breakfast every day for 20 to 25 days. The therapy was well tolerated, and there were no disturbances of the gastrointestinal apparatus. The infants gained appetite and weight. Their general condition improved, and the blood picture revealed an increased number of erythrocytes and higher levels of globulin and protein. Only a few of them, under six months of age, did not benefit from the therapy. The second group of 15 children, 2 to 15 years old, received 2 gm. of extracts of fresh liver and 15 mcg. of vitamin B_{12} intramuscularly every other day for 20 to 25 days. The injections were always painless and never caused allergic reactions. The cytochemical changes in the blood picture were superior to those obtained in the first group of patients. There was an increased number of reticulocytes and erythrocytes and higher levels of globulin and protein. The action of the two products was reciprocally enhanced. In fact, oral administration of vitamin B_{12} alone produces only an increase of appetite and, therefore, of weight, whereas when it is combined with liver extracts there is also a slow but progressive and beneficial modification of the blood picture.

Nordisk Medicin, Stockholm

49:893-926 (June 26) 1953. Partial Index

Fate of Certain Colloids in Organism After Parenteral Administration: Present Problem in Connection with Use of Colloidal Infusions. A. Grönwall.—p. 896.
•Combined Anesthesia with Curare in Cesarean Section. K. Bergquist, S. Lundin and L. Thorén.—p. 899.
Spinal Anesthesia in Cesarean Section. S. Genell, H. Marcus and N. Zippis.—p. 902.
Mucocele of Appendix. H. Rasmussen.—p. 908.
Pneumatosis Cystoides Intestinalis. C. Villaume.—p. 912.
Operative Treatment of Hallux Varus. H. B. Mygind.—p. 914.
Ambulant Method of Treatment of Fractures in Lower Extremities in Older Patients. J. Svastokoglou.—p. 916.

Combined Anesthesia with Curare in Cesarean Section.—Comparison of the results in the 45 cases of cesarean section under combined anesthesia consisting of local anesthesia and intravenous administration of Narkotal (a solution containing 0.11 gm. of the sodium salt of isopropyl-beta-bromallyl-N-methyl barbituric acid, 0.1 gm. antipyrine, and 0.1 glycerin in water) with curare and nitrous oxide since late 1950 with those in 56 cases of cesarean section under ether anesthesia since late 1949 shows no certain difference with regard to fetal mortality ascribable to the anesthesia. With regard to the combined anesthesia, however, Bergquist and his associates note the following advantages: for the mother, rapid anesthetization with prompt recovery, reduced hemorrhage, and reduced postoperative distress; for the infant, little or no risk of asphyxia; and, for the obstetrician, smaller doses of the anesthetic agent, with excellent muscular relaxation, facilitating operation. The authors caution that the use of curare calls for a team skilled in anesthesiology.

50:957-990 (July 9) 1953. Partial Index

•"Early Diagnosis" in Cancer of Breast. L. Kreyberg.—p. 957.
Parotid Tumors and Their Treatment. J.-E. Laage-Hellman.—p. 960.
Tumors of Salivary Glands. E. A. Mylius.—p. 962.
Relation Between Histologic Type and Clinical Development of Neurinomas. G. Thorsrud.—p. 966.
Incidence of Cancer of Breast in Women in Relation to Age, Marriage and Number of Childbirths. S. Rennaes and L. Holan.—p. 967.
Treatment of Plastic Induration of Penis. O. Dahl.—p. 969.
Relation Between Reiter's Syndrome and Gonorrhea Reflected in Some Cutaneous Symptoms. I. Ruikka.—p. 977.
Migraine and Pylorus Spasm. G. Andrén-Sandberg.—p. 977.

"Early Diagnosis" in Cancer of Breast.—Kreyberg says the reason for the depressingly low results in complete recovery in mammary cancer is in the first place that the tumor cells may have spread beyond surgical control before operation is carried out, even before diagnosis is made, and/or in the second place that the tumor cells are not sufficiently radiosensitive. He analyzes the expression "early diagnosis" and examines the usefulness of various definitions of the term, mainly to clarify criteria for the immediate recognition of cancer of the breast at a time when complete recovery is possible if the patient receives the best possible treatment. One definition of "early diagnosis" commonly used is diagnosis of a tumor still in stage 1, when it can be completely removed by mastectomy. Another attempt at a productive definition of "early diagnosis" is diagnosis immediately after the first symptom, whatever its nature, but even when the length of time between diagnosis and treatment is reduced to a practical minimum only about half the patients can count on living free from symptoms for five years. A third definition is diagnosis of a very small tumor. The author points out that these three most usual definitions of "early diagnosis" fail, the first one because the criteria are available only as a result of retrospective clinical analysis, the second and third because there are no criteria that enable all patients to recognize the tumor at a stage when certain or practically certain recovery can be counted on with the best methods of treatment at hand today. He knows of no other definition that makes this possible. On diagnosis about two-thirds of the tumors have metastasized and are at a stage when half the patients will die of their tumors. The tumors differ in degree of malignancy. Grade 1 tumors, while malignant, have a moderate malignancy; they are relatively highly differentiated and grow and metastasize slowly. Grade 3 tumors are highly atypical and metastasize rapidly. Between the two extremes are grade 2 tumors. Differentiation between the two extreme groups is comparatively simple. The classification of the middle group is difficult and gives the greatest room for individual evaluation. For the tumors in group 1 a slightly earlier or slightly later diagnosis does not play an important part, as the tendency to metastasize is small. Tumors of grade 3 have often metastasized before they are recognizable by present methods of examination. In tumors of grade 2 the time factor is of essential significance. Statements to the effect that "with early diagnosis of cancer of the breast over 90 per cent are cured" depend on retrospective analysis of a treated material in which patients determined as having early cases are selected on the basis of knowledge not available until after the patients are operated on and treated. The possibility of recovery is around 50%, with a possible maximum of 60%. The inherent malignancy of the cancer is the most decisive factor. It is, however, the right and duty of every physician to take an optimistic view with regard to the individual patient, as cancer of the breast like many other diseases can bring happy surprises. Every one who has followed the treatment of mammary cancer will know of cases with favorable outcome in spite of a rather hopeless outlook at the start, with both highly atypical primary tumor and metastases.

50:991-1028 (July 16) 1953. **Partial Index**

*Causes of Premature Births and Causes of Deaths in Premature Infants. U. Rolfsen.—p. 994.
Pacifiers and Dental Caries. P. Selander and A. Syrrist.—p. 1003.
Myocarditis in Infants. R. Kostmann and M. Pehrson.—p. 1012.

Causes of Premature Birth and Causes of Death in Premature Infants.—From his analysis of 591 cases of premature birth at the Bergen Women's Clinic, Rolfsen concludes that premature birth may depend on the complications of pregnancy, maternal illness, and twin pregnancies and that there may also be a habitual or hereditary tendency toward premature delivery. Clinically demonstrable disease as the cause of death in premature infants seemed to account for about 20% of the cases; in 80% the cause of death was more or less uncertain. In cases with cephalic presentation and small fetuses short duration of labor tended to be harmful. In the first week of life there was a direct ratio between viability and weight. The death rate declined as the infants attained normal weight. After reaching normal weight the infants presented about the same mortality as full-term infants. Deficient development thus seems to be the main cause of death among premature infants. Mortality among premature infants should be combated by guarding against the factors responsible for early delivery. More thorough maternal control is necessary and more extensive hospitalization from the 28th week for diseases of pregnancy is desirable. The newborn premature infant requires special treatment by well-trained personnel.

Prensa Médica Argentina, Buenos Aires

40:1987-2068 (July 31) 1953. **Partial Index**

Apoplectic Gallbladder: Tactics of Ectomy. R. Finochietto and E. A. Bilesio.—p. 1987.
*Treatment of Leprosy: Experience with Isonicotinic Acid Hydrazid: Preliminary Report. L. Argüello Pitt and C. A. Consigli.—p. 1996.
*Neoplasic Cells in Bone Marrow. M. Kleimans.—p. 2006.
Meningococcic Meningitis. Treatment with Sulfa Drugs and Penicillin. C. A. Bonetti Dupont, V. C. Laurini and J. C. Söhle Cateula.—p. 2013.

Isoniazid (Isonicotinic Acid Hydrazid) in Leprosy.—Leprosy and tuberculosis are related diseases. Their causal agents are mycobacteria of similar morphological and staining characteristics. Normal persons who in the past had lived with patients with leprosy can be immunized against leprosy by the BCG vaccine. Sulfones and *p*-acetylaminobenzaldehyde thiosemicarbazone seem to be promising in the treatment of either disease. However, these drugs cannot be given for a long period of time, because of certain unfavorable effects and intolerance. On the basis of the good results of the administration of isoniazid in tuberculosis, the authors resorted to this drug in the treatment of 12 adult patients with leprosy. The patients had skin lesions either moderate or marked with histological characteristics of the type "L" or "Ind" of the disease. All were bacilliparous. The drug was given in daily doses of 100 mg. for 15 days after which the daily dose was fixed at 200 or 300 mg. administered in three fractional doses. This is a preliminary report with results obtained to date. The patients had had treatment for six or seven months and are still under treatment. The drug was well tolerated. The general condition of the patients and of the skin lesions was greatly improved. The clinical improvement was not associated with marked bacteriological changes. Diminution of the number of bacilli in smears of material taken from the skin or from the nasal mucosa and morphological changes of the bacilli were observed in rare cases only. The authors conclude that isoniazid is indicated in leprosy, especially in anemic persons with leprosy who had had sulfones or *p*-acetylaminobenzaldehyde thiosemicarbazone and cannot receive any more of these drugs because of intolerance or harmful effects of the drugs. They advise giving alternately sulfones, *p*-acetylaminobenzaldehyde thiosemicarbazone, and isoniazid.

Neoplastic Cells in Bone Marrow.—The types of cancer that most frequently produce bone marrow metastases in the form of neoplasic cells are cancer of the prostate, lung, and breast and the neuroblastomas. The author reports six cases. He emphasizes the value of the examination of material taken, by sternal puncture, from the bone marrow for the diagnosis of cancer. The finding of malignant cells in the bone marrow confirms the diagnosis of cancer. This type of metastasis indicates that there exist metastases in several other viscera that had not been observed by clinical or roentgen examination. When an operation is planned, this type of metastasis shows that the patient is beyond surgical intervention. Neoplasic cells in the bone marrow can be identified by their morphology. They are larger than normal. The structure and staining properties are different than those of normal cells. The nucleus is very large. The nucleus-cytoplasm index is increased. Frequently there is mitosis. The nucleoli are abnormal in number, size, form and staining character. The cytoplasm is either abundant or scanty, but always basophilic, frequently vacuolated, and sometimes with inclusions. There are pathological mitoses. In the cases reported by the author, the neoplasic cells in the bone marrow were abundant. Two of the patients had cancer of the lung, one of the lung and liver, and three of the prostate. The patients were observed in very advanced stages of cancer.

Presse Médicale, Paris

61:959-978 (July 4) 1953. **Partial Index**

Acute Porphyria with Urine Containing Porphyrins with 3, 5, and 7 Carboxyls in Addition to Uroporphyrin 3. R. Garcin, A. Escalier, A. Gajdos and others.—p. 959.
*Heparin in Treatment of Arteritis of Lower Limbs. M. Remy, P. Cadiot and C. Pernot.—p. 961.
*Fundic Gastrectomy. L. Leger and F. Kanoui.—p. 962.

Heparin in Treatment of Arteritis of Lower Limbs.—Excellent results were secured by intra-arterial injections of heparin in three patients with acute thromboses superimposed on chronic arteritis of the lower limbs; amputation, which had been considered inevitable in two of the patients, was averted. Heparin therapy in these cases proved so effective that it was tried in 15 patients with severe arteritis accompanied by trophic disorders and necrotic lesions. Marked regression of functional disturbances, with an increase in the local temperature and sometimes in the oscillometric index, was obtained in nine of these; three were not benefited, probably because the site of the obliteration was particularly disadvantageous; and in one who showed improvement after three injections, treatment unfortunately had to be abandoned. Intra-arterial injections, preferably into the femoral artery directly above the obstruction, are essential; they may be given alternately with intravenous injections in acute cases, but when the intravenous route alone is used, the drug is largely ineffective regardless of the dosage given. A total of from 400 to 500 mg. may be given daily at the outset in acute cases, with a gradual reduction in amount as improvement progresses. Treatment may be supplemented with procaine and procaine amide (Pronestyl) hydrochloride, also administered intra-arterially, when necessary. A single intra-arterial injection daily, without intravenous administration, is usually sufficient in less severe cases; from 8 to 12 injections of 100 mg. each may be given in such cases and the series can be repeated if necessary. The results obtained by the use of heparin are usually more pronounced, rapid, and lasting than those obtained by other methods.

Fundic Gastrectomy.—French and American surgeons, working independently, have proceeded along similar lines in their efforts to improve the surgical treatment of ulcerous disease by resecting as much of the acid-secreting area of the stomach as possible. The method developed by the authors removes the whole of the fundus and the vertical segment of the corpus contiguous to the greater curvature, leaving a gastric tube, not much larger than the esophagus, along the lesser curvature. The pyloric antrum, into which the tube opens, is left intact and pyloric functioning is preserved to the maximum because the vessels of the lesser curvature and its sympathetic nerve supply (the pneumogastric nerves) are respected. This procedure has been in use for several months, and its results will be reported as soon as the follow-up period warrants it. Investigation of the literature a posteriori showed that a similar method, proposed by Connell in 1929, was studied experimentally by him in 1951. Wangensteen's recently developed tubular gastrectomy resects the whole of the greater curvature but leaves the lesser curvature and the adjacent portion of the stomach intact; it is completed by a pyloroplasty. Arnous and Gibert advocate a partial resection of the fundus combined with a gastroenterostomy as a means of reducing hydrochloric acid-pepsin secretion, thus independently duplicating one of Wangensteen's earlier procedures. Postoperative determinations of gastric acidity show that most operations directed against ulcerous disease contribute to a reduction in acidity by permitting an intragastric reflux of alkaline secretions. Substantial reduction of acidity followed fundic gastrectomy in three of five patients operated on by the authors; in the fourth, the preoperative level was not significantly high; and in the fifth, whose hospital stay was prolonged by a postoperative pulmonary suppuration, repeated determinations showed gradually increasing acidity after an initial decline. Further study and a longer follow-up are needed to determine the definitive effect of this procedure on gastric acidity. Mediogastric stenosis, for which no explanation can be offered, sometimes occurs as an early postoperative complication of fundic gastrectomy, regardless of the method used.

61:979-1000 (July 8) 1953. Partial Index

How Does Sodium Salicylate Act? F. Coste, M. Bourel, F. Delbarre and R. Weissenbach.—p. 979.

Hormonal Hepatic Steatosis in the Depancreatized Dog and Its Prevention by Vagotonin. D. Santenoise, G. Albot, M. Corteville and R. Thévenot.—p. 982.

*Needle Biopsy of the Kidney. P. Payet, P. Pene, R. Camain and others. —p. 989.

*Clinical Trials of Treatment of Eczema and Pruritus with Local Applications of Hydrocortisone Acetate. E. Sidi, J. Bourgeois-Cavardin and G. Plas.—p. 992.

Needle Biopsy of Kidney.—Needle biopsy of the kidney is a delicate procedure requiring skill and experience. It often furnishes valuable diagnostic information and may be used with safety in patients with various renal disorders. Transient macroscopic hematuria in two patients and signs of shock in a third were the only complications noted in a series of 55 renal biopsies; two patients had a slight rise in temperature the evening after the procedure, and four others had an accelerated pulse rate in the first two hours. Successful performance of the biopsy was followed by microscopically detectable hematuria during a 48 hour period showing that penetration of the kidney had been achieved. All patients were kept in bed for 24 hours after the biopsy and were given antibiotics and coagulant therapy for 48 hours. Renal biopsy may provide the solution to difficult diagnostic problems; in one of the authors' patients, a 40-year-old man with hematuria, a large right kidney, and moderately impaired function, biopsy eliminated the suspicion of cancer and established a diagnosis of hematuric nephritis. Histological study of biopsy specimens facilitates early diagnosis of renal tumors, especially cancer. Appropriate therapeutic measures can also be more easily instituted when the condition of the renal tissues has been accurately determined. Contraindications are numerous; needle biopsy of the kidney should not be attempted in the presence of renal or perirenal suppuration, hydronephrosis, and renal tuberculosis or even when the kidney is polycystic. The technical difficulties encountered in carrying out the procedure are greatly increased by the renal atrophy characteristic of certain conditions.

Local Applications of Hydrocortisone Acetate in Eczema and Pruritus.—Hydrocortisone acetate (Compound F) ointment in concentrations of 1 and 2.5% was used in treating 48 patients with various forms of eczema and pruritus. Hospitalized patients received daily application; all others were treated two or three times a week at the office. Patients with symmetrical lesions were selected for treatment whenever possible so that the effect of the hydrocortisone acetate ointment could be compared with that of the base or of an ointment whose action was already known, such as Dalibour ointment. Very little was needed to secure a clinical effect; 22 tubes of ointment containing 5 gm. each were enough for six weeks' treatment for all 48 patients. Light friction to increase absorption was used in applying the ointment, after which the surface was left either uncovered or protected by a fine gauze. Prompt and striking relief was obtained in cases of localized pruritus. Successive applications were followed by more prolonged periods of sedation, so that treatments could eventually be spaced at intervals of as much as four or five days without discomfort. Premature discontinuance of the treatment, however, was followed by renewed pruritus. The best effect was obtained with the 2.5% ointment. Certain chronic and refractory eczematous lesions were also greatly improved or cured; edema and oozing disappeared, and, after a period of desquamation, the skin recovered its normal smoothness, suppleness, and color. Improvement was usually noted within 48 hours, but treatment was continued for several weeks even after apparent cure because recurrence almost always followed if application of the ointment was discontinued too soon. Comparison of the control lesions and those treated with hydrocortisone ointment showed that, while the control lesions were sometimes benefited by the ointment base or the other preparations used, improvement in those treated with hydrocortisone acetate ointment was always greater and usually incomparably so. Tolerance for the ointment was uniformly good; it had no cosmetic disadvantages; and no contraindications to its use have yet been established.

Rivista di Ostet. e Ginecologia, Florence

8:281-360 (May) 1953

Biochemical Investigation of Corpus Luteum and Placenta. M. F. Jayle and O. Crepy.—p. 282.

Radiological Investigation of Sella Turcica in Primary Amenorrhea. P. L. Bianchi.—p. 292.

*Trichomoniasis Vaginalis: Clinical, Bacteriological, and Anatomicopathological Study (Continuation and Conclusion). G. B. Candiani.—p. 301.

Treatment of Trichomoniasis Vaginalis.—Treatment of Trichomoniasis vaginalis has always aimed at a specific action on the Trichomonas and the other bacteria that often accompany this condition. However, since it is an altered biological state of the vagina that is favorable to the development of the flagellate, the specific treatment caused the Trichomonas to pass from a phase of pathogenicity to one of saprophytism with an almost asymptomatic picture which was erroneously interpreted as a period of temporary recovery. The treatment should first aim to restore the vagina to a normal biological state and then to influence the flagellate. In addition, since a previous study (*J. A. M. A.* **152:**287 [May 16] 1953) revealed that the pathogenicity of the flagellate is linked to a state of deficient estrogen secretion, the function of the gonads should always be investigated in patients with this infection, and hormone therapy should be instituted. Estrogens, mainly synthetic and of the stilbene series, should be administered, especially to patients with uterine hypoplasia and to those whose ovaries have been removed. The author's in vitro and in vivo studies revealed that thymol is effective on the protozoan but not on the vaginal flora. He, therefore, combined thymol with oxytetracycline (Terramycin) to potentiate the elective action of the former by sterilizing the coexisting flora. The new product was prepared in the shape of a small capsule, each capsule containing 5 cg. of thymol, 10,000 mg. of oxytetracycline, 10 drops of 1% procaine (to avoid a burning sensation when the capsule was applied) and gelatin. One capsule was introduced into the vagina of pregnant and nonpregnant women with this infection every evening for from three to eight evenings. The author obtained good results in 146 patients who were treated with this preparation and concurrent administration of small doses of synthetic estrogens. He secured an immediate recovery in all the patients. The flagellate and the symptoms disappeared in all. A follow-up one to three months later revealed a definitive recovery in 128 of the patients.

Schweizerische medizinische Wochenschrift, Basel

83:687-706 (July 25) 1953. **Partial Index**

Diagnosis and Treatment of Fungus Diseases of Lung. T. Wegmann. —p. 687.

Some Actual Problems of Accident Medicine in the Field of Ophthalmology, Based on Experiences of Swiss Accident Insurance Institute (Concluded). F. Lang and J. Schürmann.—p. 689.

*Significance of Thrombocytes in Allergic Processes: I. Communication: Reduction in Number of Thrombocytes in Vivo After Exposure to Allergen. H. Storck, P. Bigliardi, H. Brenn and R. Hoigné.—p. 692.

Thrombocytes in Allergic Processes.—Using Feissly and Lüdin's technique, the number of thrombocytes in the peripheral blood of 449 patients and healthy control persons was counted with the phase microscope before and within half an hour, one hour, and one and a half hours after they had been given small doses of various drugs (one-fourth to one tablet by mouth or one-tenth to one-half of an ampul by injection). The maximum increase or reduction in the number of thrombocytes was expressed in percentage of the initial value. Of the 449 persons, 70 had a history of drug allergy, and their hypersensitiveness to the drug was manifested clinically by urticaria, eczema, rash, purpura, anemia, agranulocytosis, and symptoms of shock, which disappeared when the drug was discontinued and reappeared on repeated exposure to the drug. In these 70 persons, the number of the thrombocytes was, as a rule, reduced by 15% or more of the initial value within one and a half hours after the administration of the test dose of the drug. In the 379 persons who were not sensitive to the drugs tested, the number of the thrombocytes was increased, or as a rule there was less reduction. Occasional or repeated reduction in the number of thrombocytes occurred with a few drugs in persons without clinically demonstrated allergy. Statistical evaluation of the changes in the number of thrombocytes showed significant differences in that in the presence of drug allergy the mean values were found between −22% and −28%, while in the absence of hypersensitiveness to the drug the mean values were between +11% and −5%. Control counts of thrombocytes carried out in the morning on the empty stomach without exposure to the drug showed mean values of −1% in 204 persons and −5% after a nonallergenic test breakfast in 21. The behavior of the thrombocytes can, therefore, be used as a test for clarifying a possible drug allergy (thrombopenic index). When the results of the thrombocyte counts were compared with those of leukocyte and eosinophil counts, it appeared that the response of the thrombocytes was more pronounced and more specific than that of the leukocytes and eosinophils, and the same applies to the results of the thrombocyte reduction test as compared to those of cutaneous tests. In the individual case, sensitization is suggested with high probability by a pronounced reduction in the number of thrombocytes, but critical comparison with history and clinical symptoms always is necessary.

South African Medical Journal, Cape Town

27:557-576 (July 4) 1953. **Partial Index**

Hereditary Haemorrhagic Telangiectasia: Report of Bantu Case. A. M. Theron.—p. 557.

*Sporadic Cretinism in One of Fraternal Twins. T. James.—p. 562.

*Use of Noradrenaline in Acute Hypotensive States. M. B. Barlow, H. Ginsberg and J. Gottlich.—p. 564.

Sporadic Cretinism in One of Fraternal Twins.—The occurrence of sporadic cretinism is reported in only one of a pair of dizygotic twins. This condition is rare in multiple births; only four other comparable case reports were found by the author in the literature. The first case was published in 1914; 20 years passed before two more cases were published in one paper, and this was followed a year later by a fourth. The author's patient was a girl, while her twin was a boy. After the diagnosis of cretinism was made in the girl at the age of six months, ⅛ grain (8 mg.) of dried thyroid extract was given twice a day. The response to this treatment was gratifyingly rapid. After 28 days of treatment, the dose of the thyroid medication was increased to ⅛ grain given three times a day, and two months later to ¼ grain (15 mg.) twice a day. Comparable measurements of head, chest, abdomen, and length of the twins showed a striking approximation allowing for any expected differences that are usual between fraternal twins. At the age of 14 months, on a dose of ½ grain (30 mg.) of thyroid extract twice a day, the patient conducted herself in every way like a normal child. The degree of osseous developmental retardation in the hypothyroid twin reported on by the author was not assessed, and so the opportunity to determine whether the normal twin's thyroid hormone was adequate in utero for its defective twin's intrauterine metabolism and growth was missed. There is retrospective speculation whether the normal twin's thyroid gland was adequate for both, up to the time of birth when the defective twin would begin to develop its hypothyroidic state, and then it would be fair to say that the cretinism is congenital. The fundamental reason for sporadic cretinism in one of the author's pair of binovular twins could be either a genetic deficiency or that the inductive stimulus for the differentiation of the gland from its substrate was lacking or subliminal.

Use of *l*-Arterenol in Acute Hypotensive States.—A 4 cc. ampul of *l*-arterenol (Levophed) dissolved in 1,000 cc. of isotonic sodium chloride solution or dextrose in water was given by intravenous infusion to 21 surgical patients with acute hypotension. Five of the 21 patients were in such severe shock that any thought of operative interference was out of the question. On a *l*-arterenol infusion the condition of all these patients improved sufficiently for operation to be performed. All five patients survived for 12 hours. Two died after 12 hours from their original injuries, one died eight days later, and two survived. In nine patients acute hypotension occurred during the operative procedure. Three of these nine patients were given *l*-arterenol during the surgical intervention only, the other six received it during the postoperative period. All survived the operation, but two died subsequently because of their surgical condition. The remaining 7 of the 21 patients received *l*-arterenol as a treatment for acute hypotensive states not associated with anesthesia. In this group three patients died, two from pulmonary embolism and one from cardiac failure associated with severe toxemia. In these patients the blood pressure was well maintained by the *l*-arterenol until the time of death. Of the remaining four patients, one had severe burns and was in a hypotensive state for two days after injury despite adequate intravenous therapy. He was given *l*-arterenol for 24 hours, after which time his blood pressure was maintained at a satisfactory level. Two patients collapsed some days after surgical intervention and the cause of the collapse was not ascertained, but both recovered on *l*-arterenol infusions. In all patients with acute hypotension treated with *l*-arterenol the immediate results were dramatic. The blood pressure always rose within a few minutes after the institution of the drug. In this respect, the effect of *l*-arterenol was much more reliable than that of any other pressor drug. In addition it is less toxic. The authors caution against the administration of *l*-arterenol if the blood pressure cannot be continuously watched, for it may rise to dangerously high levels within a few minutes. Its use is thus only practicable where trained personnel are available day and night to take blood pressure readings and to adjust the infusion accordingly. Treatment with *l*-arterenol is purely symptomatic; therefore, its great use is in acute hypotensive conditions to raise the blood pressure until the cause of the sudden hypotension can be treated by blood transfusion or other appropriate measures.

BOOK REVIEWS

Emotional Factors in Skin Disease. By Eric Wittkower, M.D., and Brian Russell, M.D. With contributions from Peter Edgell, Desmond Irwin, and John Storach. Psychosomatic Medicine monograph. Forewords by Dr. R. M. B. MacKenna and Professor D. E. Cameron. Cloth. $4. Pp. 214. Paul B. Hoeber, Inc. (medical book department of Harper & Brothers), 49 E. 33rd St., New York 16, 1953.

This timely book makes available to the medical profession an authoritative analysis of an important subject. It is unique in that it represents the joint endeavors of men trained in two different specialties, psychiatry and dermatology. The authors have performed an excellent job in collating and analyzing the case histories recorded in this volume and in attempting to correlate dermatological, pathological, and physiological data with the findings of the psychiatrists. At present many of the most fruitful lines of research in dermatology are those that can best be undertaken in the laboratory in order to combine chemical knowledge with scientific achievement. There is an overemphasis, however, on chemical and pathological findings as the keys to cutaneous etiological factors and diagnosis. Many of these laboratory findings are inappropriate and even misleading. The practitioner and the specialist must always bear in mind that the skin includes both soma and psyche, and the ills of the surface cannot always be healed unless the mind is relieved and the spirit emancipated. It must be emphasized at the same time, however, that proper local and systemic measures are still of primary importance in dermatological therapy.

This volume represents the combined efforts of five colleagues to point out that the skin stands between the person's inner and outer worlds and that a great interplay of forces is reflected in its functioning. The book consists of two parts, a general part dealing with the development of the skin, the function of the skin, and the neuroanatomy and physiology of the skin, and a second part dealing with specific disorders. A chapter on investigation and management of patients with skin diseases should aid the physician in handling certain cases. Although many important skin diseases with psychosomatic components have not been discussed, the omission is due to the fact that the authors' case material concerning these disorders was not large enough to draw conclusions that allow generalization. The diseases that are described are adequately presented and convincingly illustrated by selected case studies. Some of these patients obviously required deeper exploration from a psychoanalytic standpoint, but the presentation was suitable for this type of combined study.

This book can be read profitably, inasmuch as the authors have assembled a stimulating and significant series of interpretations of the complex changes that take place in the skin. It is a pioneer work that should stimulate both the dermatologists and the psychiatrists who will carry out future research in this field.

Man's Back. By Theodore A. Willis, M.D., F.A.C.S., Consulting Orthopedic Surgeon, U.S.P.H.S. Hospital, Cleveland. Cloth. $9.50. Pp. 161, with illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

This monograph has resulted from the personal experiences of the author in dealing with lesions of the back. Because of the inaccessibility of the deeper parts to direct physical examinations and the complexity of the anatomic arrangements, differential diagnosis becomes quite a challenge. An attempt has been made to utilize not only the perfection of roentgenray technique but also the practical available knowledge of physiology and biochemistry. Enthusiasm for each new method of therapy has been properly restrained, yet worth-while associated material has been salvaged and included in the text. Chapter 1, dealing with embryology of the back, is particularly well written and stands out as an excellent example of detailed work presented in a simple, concise, and readable manner. A minor criticism might be raised in the discussion of gout on page 111, in which instance no mention is made of the newer drugs. It might have been better to have suggested a study of the serum uric acid rather than the time-honored, and often misleading, blood uric acid. The book is printed on good stock, and the roentgenograms have reproduced unusually well. Double column arrangement and a large-sized type are also advantageous features. This monograph can be recommended to anyone interested in the study of a patient with an aching back.

Clinical Investigation: A Manual for Practitioners and Students. By E. H. Stokes, M.D., Ch.M., F.R.A.C.P. With foreword by G. E. Beaumont, M.A., D.M., F.R.C.P., Physician to Middlesex Hospital. Cloth. £5/5/-. Pp. 628, with 345 illustrations. Angus & Robertson, Ltd., 89 Castlereagh St., Sydney, N.S.W., Australia; 48 Bloomsbury St., London, W.C.1, 1953.

Although the title "Clinical Investigation" suggests a guide for those involved in research at a clinical level, this is not the author's meaning. The book is rather what most physicians in America would call a textbook on physical diagnosis. As such it is interesting because of its profuse illustrations. In a sense this characterizes the book. It is particularly concerned with that part of physical diagnosis based on observation with the eyes. More mechanical techniques, such as percussion, are less extensively illustrated or described. The reader gains the impression that an experienced and canny observer has distilled long observation into a concise and sound summary. As such it presents a satisfactory text for a considerable part of physical diagnosis.

Arzneimittel-Synthese. Von Professor Dr. H. P. Kaufmann, Direktor des Instituts für Pharmazie und chemische Technologie der Universität Münster. Cloth. 87 marks. Pp. 834, with 26 illustrations. Springer-Verlag; Reichpietschufer 20, Berlin W. 35 (West-Berlin); Neuenheimer Landstrasse 24, Heidelberg; Göttingen, 1953.

This reference work provides a meeting ground for both the pharmaceutical chemist and the pharmacologist. The author, as did Frankel before him, has carefully blended information on the important steps of synthesis and structure-activity relationships among the members of the many groups of synthetic drugs now available. Thus the reader may comprehend the limitations imposed in drug manufacture on the types of derivatives that could be available and what alterations in pharmacological properties and side-effects might follow from a given modification of chemical structure. The author has had 30 years' experience teaching pharmacy students in German universities and has made numerous investigations in the field, especially in the study of neuropharmacological agents. Much emphasis is placed on this group of drugs, particularly on the synthesis and properties of the local anesthetics that have been derived from cocaine. The scope of the book may not fit in exactly with the interests of American pharmacologists. Although relatively little material on diuretics or drugs for cardiac patients is presented, a thorough discussion of vitamin and steroid synthesis and other topics from the German patent literature is provided. The book is divided into sections according to organ systems. Secondary classification is usually on a physiological basis, and detailed separation is made by chemical structure. This arrangement, though admittedly not ideal, makes the book easily usable by readers with either a chemical or a biological orientation. Each section is preceded by a short review of the physiology and anatomy of the system to be discussed. A list of significant European and American patents is provided. Both bibliography and index are detailed and well organized. A book that is of such value in integrating the work of pharmaceutical chemists and pharmacologists is a welcome addition to the literature of medicinal chemistry.

These book reviews have been prepared by competent authorities but do not represent the opinions of any official bodies unless specifically so stated.

A Clinical Approach to Children's Rorschachs. By Florence Halpern, Ph.D., Assistant Professor of Clinical Psychology, New York University College of Medicine, New York. Cloth. $6. Pp. 270. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, 1953.

In this book the author has attempted to communicate the insight she has gained, through her vast experience, in the interpretation of children's Rorschach test records. She has also made some significant contributions to a theory underlying the relationship between Rorschach test factors and developmental trends.

The book begins with a description of differences in test administration for the preschool and school age child and contrasts these with the procedure for adults. The author postulates three developmental levels that she feels are clearly delineated in children's Rorschach test records. These levels are 2½ to 4 years, 4½ to 6, and 6 to 10. The various test factors of area, determinants, content, etc., are discussed with regard to the manner and frequency in which they are manifested on each of these levels. Each of the 10 stimulus cards are then described in terms of the qualitative reactions that are characteristic of certain types of children as well as those considered normal for each of the developmental levels. The basic personality factors of self-concept, identification, anxiety, defense mechanisms, and ego strength are discussed in their theoretical aspects, and an attempt is made to show how their development and dynamic structure can be studied in children by means of the Rorschach test. The author has also tried to establish age patterns of characteristic Rorschach test responses that can be considered normal for each of the three developmental levels.

Most of the book is devoted to the means of detecting good adjustment, emotional disturbance, neurosis, schizophrenia, organic disorder, and mental retardation in children's records. Forty sample Rorschach test records are included to illustrate these categories. The scoring method used by the author appears to follow Klopfer, and her theoretical hypotheses and qualitative interpretations seem to be within the psychoanalytic framework. The book is intended for advanced students of the Rorschach test and practicing clinical psychologists. It is one of the best pieces of research that has been done in the area of child Rorschach interpretation, but it suffers from the lack of statistical and experimental data to corroborate the author's theoretical and clinical hypotheses. She does not state the exact way in which she arrived at her age patterns, but they are in general agreement with the norms established in the more objective studies like those of Ames and others. This is not the strong point of the book, however. Probably of greatest value to the clinician are the hypotheses offered for the clinical and developmental meaning of the various Rorschach test patterns and responses. But since this section is the most lacking in statistical and objective corroboration it is the part that must be most critically appraised by the individual reader.

The limitation of this study is recognized by the author herself, and thus she says that the inferences that are drawn concerning the meaning of certain responses and the significance of certain test factors must be considered as "working hypotheses." On the whole, the book is well written and should be of great interest to anyone concerned with the interpretation of the Rorschach tests of children.

Surgical Forum: Proceedings of the Forum Sessions, Thirty-Eighth Congress of the American College of Surgeons, New York City, September, 1952. Surgical Forum Committee: Owen H. Wangensteen, M.D., F.A.C.S., Chairman, and others. Cloth. $10. Pp. 716, with illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W.C.2, 1953.

This series of articles contains 129 excellent papers prepared by nearly 350 authors and represents the most recent studies and advances in surgical technique in this country and in Canada. There are 23 excellent articles on the stomach, esophagus, and intestines; 34 on the heart and blood circulation; many fine studies of water balance and electrolytes; and several articles each on plastic surgery, thermal injuries, cancer, shock, gynecology, obstetrics, and anesthesia. This volume represents the current results of the studies in basic medical sciences as related to surgery. The material contained in it extends our knowledge of the pathological physiology of disease. On it will depend much of our future therapy.

In many instances the articles that appear in the "Surgical Forum" make even the most modern textbook obsolete, for it is impossible for the standard textbook to keep abreast of all the new work that is being done constantly in these experimental fields. The book is well edited and printed in excellent type on good quality paper. It is liberally illustrated with photographs, drawings, and charts. It is exceptionally well indexed. This book should be valuable for every surgeon, and, certainly, no surgical resident should be without it.

Aviation Toxicology: An Introduction to the Subject and a Handbook of Data. Prepared under direction of Committee on Aviation Toxicology, Aero Medical Association. Cloth. $4. Pp. 120, with illustrations. Blakiston Company (division of Doubleday & Company, Inc.), 575 Madison Ave., New York 22, 1953.

This book should be most useful to aviators. Known facts are used to show how intoxications may occur from exposure to substances used in the aviation industry. General problems of aviation toxicology are discussed. Various classes of substances used in aviation are enumerated, and their possible hazards indicated. Methods are given of calculating the concentrations that may be injurious to persons in a plane. The pesticides have received considerable attention, because planes coming from tropical areas must be sprayed to destroy possible carriers of tropical diseases; for example, the tsetse fly, vector of African sleeping sickness, has been carried from Central Africa into the Union of South Africa spreading the disease. The use of the airplane in aerial crop dusting and also in reclaiming large areas of infested lands is discussed. The last chapter lists compounds and such information as their physical constants and maximum safe concentrations.

Endocrinology in Clinical Practice. Edited by Gilbert S. Gordan, M.D., Ph.D., Assistant Professor of Medicine, University of California School of Medicine, San Francisco, and H. Lisser, M.D., Clinical Professor of Medicine and Endocrinology, University of California School of Medicine. Cloth. $10.50. Pp. 407, with 90 illustrations. Year Book Publishers, Inc., 200 E. Illinois St., Chicago 11, 1953.

This series of lectures constituted a postgraduate course in clinical endocrinology and metabolic diseases. The subject matter conforms to that included in the usual textbook, with chapters on obesity and leanness, infertility, the endocrine therapy of neoplastic diseases, an appendix listing useful endocrine preparations, and trade names and doses. Since this is a compilation, it is not surprising to find a disproportionate amount of space devoted to some subjects; for example, nine pages are devoted to Paget's disease, a nonendocrine disorder, but no mention is made of chromaffin cell tumors. In general, however, the subject matter is covered well and conforms to the opinions held generally by the profession. One might object to the designation "juvenile myxedema" applied to a patient, aged 26, suffering from mild hypothyroidism, or to the statement that "osteoporosis characteristically responds dramatically to the administration of estrogens or of androgens." As stated by the editors, "this book is not intended for the medical student, nor for the research investigator, nor for the clinical endocrinologist, who would find little within these pages with which he was not already familiar." Others will find in it a well-written, well-illustrated résumé of clinical endocrinology as presented by a group of endocrinologists, surgeons, and other specialists dealing with endocrine disorders in a large university hospital. For these the book may be recommended.

Estudios de neurología clínica. Por L. Barraquer Ferré, director de la Escuela de neurología del Hospital de la Santa Cruz y San Pablo, Barcelona. Cloth. Pp. 770, with 225 illustrations. José Janés, Editor, Muntaner, 316, Barcelona, 1952.

This volume describes all neurological syndromes in detail, illustrating them with short case histories. The diagnosis, treatment, and prognosis are discussed. The photographs are excellent, the index is adequate, and the text is written in a clear and concise manner.

The Physician in Atomic Defense: Atomic Principles, Biologic Reaction and Organization for Medical Defense. By Thad P. Sears, M.D., F.A.C.P., Associate Clinical Professor of Medicine, University of Colorado School of Medicine, Denver. With foreword by James J. Waring, M.D., M.A.C.P., Professor of Medicine, University of Colorado School of Medicine. Cloth. $6. Pp. 308, with 53 illustrations. Year Book Publishers, Inc., 200 E. Illinois St., Chicago 11, 1953.

Dr. Sears has been associated for the past several years with civil defense and disaster planning in Colorado. Dr. Waring in his foreword states, "This book is the result of deep-seated conviction on the part of Dr. Sears that the community in which he lived should be prepared for atomic warfare." The stated objective of this volume is "first, to review briefly the present physical concepts of matter, gaining in this approach and without recourse to mathematical formulas, a sounder understanding of radioactivity and its applications. Attention will next be given the structure of the atom; the significance of radioactivity; the chain reaction and the atomic bomb; the use of isotopes. Then the symptomatology, pathology and treatment of atomic bomb injuries and the methods of civil defense will be reviewed." Section 1 is devoted to "Atomic Theory, Basic Physics and Atom Bombs." The presentation should be clear even to those lacking extensive training in biophysics or nucleonics. Section 2 deals with "Clinical, Biologic and Therapeutic Aspects of Atomic Warfare." More emphasis should have been given to the details of the management of casualties resulting from the blast and burn effects of an atomic explosion. The first aid and later treatment of burns in large numbers would present a major problem in the event of such an attack.

"Organization of the Medical Department for Atomic Defense," section 3, outlines many of the problems to be faced in planning for, or handling, a civil defense emergency. The author's estimates of casualties have been recently revised upward because of the production of more powerful atomic weapons. This will necessitate a revision of plans for the care and treatment of casualties. Many of the public health problems to be anticipated in the event of an atomic explosion are touched on but not in sufficient detail to serve as a complete guide for public health physicians having to contend with them.

At the end of most chapters there is a bibliography, which, for the most part, covers material up to and through 1951. An obvious disadvantage noted was the failure to indicate in the text where the items in the bibliography were used. The selection of material for illustration and the reproduction is quite good. The format is good and the type clear and easy to read. This book should serve as excellent supplemental reading for those interested in civil defense medicine.

Fundamentals of Disease: A Textbook of Pathology and Clinical Pathology for Nurses. By Emmerich von Haam, M.D., Professor of Pathology and Director of Laboratories, Health Center, Ohio State University, Columbus. Cloth. $4.75. Pp. 424, with 90 illustrations. Springer Publishing Co., Inc., 1 Madison Ave., New York 10, 1953.

Believing that the increased responsibilities placed by modern medicine on the nurse demand that she have a better understanding of the disease processes encountered in her patients, the author has described the lesions that underlie these processes. The first part is devoted to a discussion of the six principal lesions: degenerative changes, circulatory disturbances, inflammation, adaptive changes, tumors, and cellular death. The second part presents the reactions caused by various injurious physical and chemical agents. The third part deals with the diseases of the individual organ systems. The special pathology is followed in each instance by brief descriptions of laboratory tests and their relation to nursing functions. This close correlation between structural changes and pathological laboratory findings is intended to help the nurse understand why certain tests are ordered by the physician for his patient. The responsibilities of the nurse in collecting and handling specimens, as well as special care of the patient, are stressed. The illustrations in this book have been chosen from specimens and patients personally observed at the author's institution. Study questions follow each chapter. Teachers will find this book a valuable aid to instruction. The subject matter is well-organized, clear, and interesting.

Chronic Pulmonary Emphysema: Physiopathology and Treatment. By Maurice S. Segal, M.D., Clinical Professor of Medicine, Tufts College Medical School, Boston, and M. J. Dulfano, M.D. Modern Medical Monographs, 8. Cloth. $5.50. Pp. 180, with 32 illustrations. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, 1953.

Various aspects of hypertrophic pulmonary emphysema are reviewed in this monograph. The material on pulmonary function tests is well presented. The pathophysiology of the disease is, for the most part, clearly described, including recent studies on intracardiac pressures in cor pulmonale as well a briefer mention of the forces responsible for retarded expiratory air flow. The chemical effects of oxygen treatment are not adequately reviewed, however, especially in respect to adaptive changes that follow oxygen inhalation. Retention of carbon dioxide in the blood and alveolar air is emphasized as the danger of oxygen treatment, and hyperventilation by mechanical means is properly advocated in cases of uncompensated respiratory acidosis. In the original studies on oxygen therapy in pulmonary and cardiac failure, however, it was pointed out that an increased arterial carbon dioxide tension was responsible for high carbon dioxide elimination per unit volume of ventilation; the increased carbon dioxide concentration in the alveolar and expired air is itself part of the mechanism that makes possible the continuous use of oxygen and, consequently, of clinical benefit. An elevated arterial carbon dioxide tension is more advantageously lowered by therapeutic measures that improve respiratory function, since, in the absence of an acid shift in blood pH, increasing the ventilation by artificial respiration devices may upset a useful adaptive response.

The therapeutic section includes a diverse discussion of symptomatic treatment, administration of antibiotic aerosols, corticotropin (ACTH) and cortisone, oxygen, mechanical respiration, pneumoperitoneum, psychotherapy, and breathing exercises. Although some of the procedures advocated still have to bear the test of critical judgment, many valuable hints for the management of patients with pulmonary emphysema will be found in these chapters. The book is readable, adequately illustrated, and should be helpful to the practitioner or student of medicine interested in diseases of the chest.

Fibrocystic Disease of the Pancreas: A Congenital Disorder of Mucus Production—Mucosis. Edited by Martin Bodian, M.D., Director of Department of Morbid Anatomy, Hospital for Sick Children, London. Contributors: Martin Bodian, in collaboration with A. P. Norman, M.D., M.R.C.P., Deputy Director, Institute of Child Health, London, and C. O. Carter, B.M., M.R.C.P. Cloth. $9.50. Pp. 244, with 133 illustrations. Grune & Stratton, Inc., 381 Fourth Ave., New York 16; [William Heinemann, Ltd., 99 Great Russell St., London, W.C.1], 1953.

This monograph brings together for the first time in book form the clinical, genetic, and pathological information relating to the disease usually labeled cystic fibrosis or fibrocystic disease of the pancreas. It consists of a survey of the literature pertinent to outlining the evolution of concepts of pathogenesis of the disease and a clinical and pathological review of the group of patients studied. A review of the varied clinical manifestations of the disease is based on analysis of 116 cases. The genetic aspects of the disorder are presented in a separate chapter, and the recessive gene hypothesis of etiology is accepted on the basis of analysis of the familial incidence.

The most important feature of the book is the section on pathology. This section consists of a system by system description of the gross and microscopic pathology observed in 62 patients who came to autopsy. It is profusely illustrated by photographs remarkable for clarity of detail and excellence of reproduction. Special emphasis is given to illustration, by photomicrograph, of the pathology of mucous glands throughout the body and the abnormalities of the pancreas and respiratory system that are the basis for the clinical manifestations of the disease. The thesis expressed in the subtitle, "A Congenital Disorder of Mucus Production," is well substantiated by the material presented. The clinical and pathological protocols of the 116 cases studied are included. A chapter that describes other pancreatic dysplasias simulating some of the manifestations of fibrocystic disease of the pancreas, is included, and the contrasting pathology of congenital hypoplasia of the exocrine pancreas and congenital cystosis of the pancreas is described and illustrated. The intent of the monograph, to present the clinical and pathological aspects of fibrocystic disease of the pancreas, has been accomplished with a clarity not compromised by the meticulous detailed observations, and with the liberal use of superior illustrative material. The book carefully documents the concepts of the author concerning the pathological unity of the manifestations of the disease. It is stimulating for those in a position to undertake research in new or better forms of therapy for this lethal disease and is unusually rewarding for the physician responsible for the care of patients with fibrocystic disease of the pancreas.

Modern Concepts of Communicable Disease. By Morris Greenberg, M.D., M.S.P.H., Director, Bureau of Preventable Diseases, New York City Department of Health, and Anna V. Matz, R.N., M.A., Public Health Nursing Consultant in Communicable Diseases, New York City Department of Health. Foreword by Harry S. Mustard, M.D., LL.D. Cloth. $6.20. Pp. 553, with 15 illustrations. G. P. Putnam's Sons, 210 Madison Ave., New York 16, 1953.

This volume is designed for physicians and nurses and as a textbook. The authors have attempted to present a compact and condensed summary of diagnostic, therapeutic, nursing, and preventive measures. The first part of the volume deals with general principles of infection, treatment, and nursing care. In the latter the authors have sought to simplify procedures and to remove many of the unnecessary details that have made home care so difficult. Most readers will welcome their attempted simplification and their liberal point of view, but will question the statements that sterilization is "synonymous with disinfection" (page 84), that pasteurization is a means of sterilizing milk (page 86), or that typhus is caused by a virus (page 11). The second section deals with about 60 diseases grouped according to principal modes of transmission. Each disease is discussed according to a standard pattern—the causative agent, the host, the environment, and medical care. The approach is modern and orderly, and the discussion clear and constructive. The reader may wonder, however, whether a more thorough discussion of fewer diseases might be preferable to the attempt to say something about so many.

The references at the ends of the chapters need extensive revision. Many are inaccurate, as, for example, the reference to Zinsser's classic on typhus, "Rats, Lice and History" as a book on bubonic plague under the title of "Plague, Rats and History." There is a list of 36 references to articles on rickettsial diseases as contrasted to only 6 on typhoid and none on meningococcic infections. The volume has much to commend it but requires more careful editing. These many imperfections, which mar the volume and are evident to the critical reader, should not obscure the fact that the authors have prepared a highly useful text that is of special value to physicians caring for communicable disease in the home.

Pulmonary Tuberculosis: A Handbook for Students and Practitioners. By R. Y. Keers, M.D., F.R.C.P., F.R.F.P.S., Medical Director, Red Cross Sanatoria of Scotland, Tor-na-Dee, Milltimber, Aberdeenshire, and B. G. Rigden, M.R.C.S., L.R.C.P., Physician, Lewes Chest Clinic. With new foreword by F. H. Young, O.B.E., M.D., F.R.C.P., Physician, Brompton Hospital for Consumption and Diseases of Chest, Brompton, England. Third edition. Cloth. $5.50. Pp. 324, with 150 illustrations. Williams & Wilkins Co., Mount Royal and Guilford Aves., Baltimore 2; E. & S. Livingstone, Ltd., 16 & 17 Teviot Place, Edinburgh 1, 1953.

This handbook, primarily for the student and practitioner, makes no claim for originality of method or material but aims to stimulate sufficient interest in a fascinating subject to encourage further pursuit in postgraduate years. The practitioner may obtain from it an outline of present-day therapeutic measures. More specialized details are omitted. Much of what was taught in 1946 is out of date, and this edition is almost entirely rewritten, with a new section on management of the minimal lesion. Many of the skiagrams are new. The size remains much the same because of condensation and elimination of surgical details to produce a volume convenient to handle. The authors help the student to see pulmonary tuberculosis in good perspective so that he does not get lost in a maze of detail. Although the laboratory phases are a little encumbered by the inclusion of a few obsolete and meaningless features, such as the now outmoded Gaffky system of enumerating bacilli in the sputum, the clinical chapters in the authors' own fields of observation and experience are well presented, and the illustrations are pointed. It is also encouraging that the authors have not overaccentuated the modern and note that "the recipe for success remains unaltered and depends as before on the intensity and breadth of our vigilance against the disease and upon the vigour and completeness of our efforts"—a laudable stand, particularly as conveyed to the student and practitioner who at this time may otherwise belittle the continued importance of an intricate disease.

Physiology of Muscular Activity. Originally by Edward C. Schneider, M.P.E., Ph.D., D.Sc. Fourth edition, by Peter V. Karpovich, M.P.E., M.D., Professor of Physiology, Springfield College, Springfield, Mass. Cloth. $4.75. Pp. 340, with 77 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W.C.2, 1953.

The fourth edition of this book is as valuable and attractive as the first. Despite the addition of important recent material, the size has been kept within bounds. Assuming that the student has had introductory courses in anatomy and physiology, the author discusses muscular activity from the standpoint of muscular structure, nervous control, fuel required, the role of oxygen, energetics, relative energy costs of different activities, respiration, composition of the blood, cardiac output, pulse rate, blood pressure, coordination, fatigue and staleness, external temperature, fitness and age, tests of fitness, body types and posture, activity during convalescence, and ergogenic aids (special foods, drugs, and training ideas) in work and sports. The bibliography includes foreign publications, and a judicious use of references enables the author to condense his text without lapsing into dogmatism.

The section on types of physique reflects an unsatisfactory state of that subject; there is reason to doubt that it has been much advanced by Sheldon's polysyllabic terminology and mathematical devices. The section on ergogenic aids contains some extraordinary illustrations of means that have been used, rightly or wrongly, to increase work output, from cardiac stimulants for mountain climbers to phosphates for coal miners. These ideas are dispassionately appraised, and the book should go far to discourage some irrational fads. The wealth of personal experience of the present author and his predecessor is implicit throughout the text, and the practical applications on every page make it interesting. The book is of fundamental importance to every physician related in any way to schools and athletic programs.

Shoulder Lesions. By H. F. Moseley, M.A., D.M., M.Ch., Assistant Professor of Surgery, McGill University, Montreal. Second edition. Cloth. $12. Pp. 329, with 216 illustrations and 43 colored plates by Helen MacArthur, B.A. Paul B. Hoeber, Inc. (medical book department of Harper & Brothers), 49 E. 33rd St., New York 16, 1953.

The first edition of this book by H. F. Moseley was so impressive that it did not appear that anything of importance was missing. This second edition, however, is definitely an improvement, and it includes two new chapters: "Fractures of the Shoulder Region," and "The Clavicular Articulations."

The use of hydrocortisone and corticotropin (ACTH) in the treatment of arthritis and bursitis in the region of the shoulder has been accurately described and will be of real help to the physician who is frequently faced with the problem of these often refractory conditions. No chapter will be of greater help to the physician than that edited by Francis L. McNaughton, entitled "Neurological Aspects of Shoulder Pain." X-ray diagnosis and treatment is also discussed in a separate chapter by specialists eminently qualified to speak on these subjects, Dr. Carleton Peirce and Dr. Jean Bouchard, of McGill University.

The excellence of the printing and the reproduction of illustrations, including many in full color, drawn and painted by artist Helen MacArthur, are especially noteworthy. This excellent book no longer can be considered merely as a textbook but must be classed as a reference book. A copy should be in the library of every orthopedic surgeon, every surgeon of trauma, and of all physicians who have a scholarly interest in medicine and surgery.

The Low Sodium Cook Book: How to Prepare Tasteful Meals for the Low Sodium or Low Salt Diet—Including Suggestions for the Low Sodium, Low Fat, Low Cholesterol Diet. By Alma Smith Payne, M.A., and Dorothy Callahan, B.S., Research Dietitian, Massachusetts General Hospital, Boston. With introduction by Francis L. Chamberlain, M.D., M.Sc.D. Cloth. $4. Pp. 477. Little, Brown & Company, 34 Beacon St., Boston 6, 1953.

Physicians who prescribe low sodium diets and patients who must follow them will find this book invaluable. It is accurate, easy to read, and practical. It contains many suggestions, including intriguing recipes, that should greatly assist in making the low sodium diet more palatable. The importance of the physician's instructions and guidance are stressed throughout the book. The 18 chapters deal with the various classes of foods, methods of preparation, seasonings, foods to avoid, the packaged lunch, and a discussion of what to eat outside the home. The sodium content of individual servings and recipes is always indicated. A chapter on the low sodium, low fat, low cholesterol diet is included. In the appendix, the sodium, cholesterol, and fat content of common foods, the sodium content of public water supplies, and commercial low sodium products and concerns manufacturing them are listed. This book is recommended highly to physicians, patients, and dietitians as a guide for planning interesting, low sodium diets.

Rose and Carless' Manual of Surgery for Students and Practitioners. By Sir Cecil Wakeley, Bt., K.B.E., C.B., President of Royal College of Surgeons of England, London. Contributors: S. G. Clayton, M.S., F.R.C.S., F.R.C.O.G., Obstetrical and Gynaecological Surgeon, King's College Hospital, London, et al. Eighteenth edition. Cloth. $12. Pp. 1471, with 1011 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2, 1952.

Presumably this manual is intended as a textbook and as a reference book for general practitioners. To fulfill this role it should contain full discussions of surgical fundamentals and of common surgical conditions, together with authoritative, up-to-the-minute résumés of less frequently encountered problems. In neither of these fields does the book achieve consistent success.

The chapters on infection, shock, and hemorrhage and blood transfusion are all of high quality, and there is a particularly good chapter on burns by Wallace. The chapter on biopsy in surgery is a new departure and deserves mention. Although parts of the rest of the book achieve the standard of those mentioned, others are less commendable. In part this may be due to delay between writing and publication, and it is disappointing to find so many recent advances omitted from a text dated 1952. For example, the chapter on water and salt deficiency, competent as far as it goes, is strangely uninformative about blood chemistry studies, and potassium is only mentioned briefly in an addendum (page 57). The only liver function tests mentioned (page 1022) are the levulose tolerance test and the urinary nitrogen coefficient; hepatic function is passed over with the statement "there is no satisfactory clinical or laboratory test of the efficiency of the liver." Diaphragmatic hernia is given one brief paragraph, and hiatus hernia is not mentioned at all, except for a note on the congenital short esophageal type in the section on diseases of the esophagus. Resection therapy for pulmonary tuberculosis is not even mentioned. Although Hirschsprung's disease is discussed in two different sections of the book, the space given to it is largely wasted, because modern concepts of the cause and treatment introduced by Swenson are not included. In the section on vascular surgery, the only method given for bridging arterial defects is the "saphenous vein graft supported by a vitallium tube if available" (page 139), and the classical ligations of major arteries are listed in the old-fashioned textbook way without any indications of the results of these ligations (page 149). There is no indication of the importance of the postphlebitic factor in the pathogenesis of "varicose ulcers."

There is one dangerous misconception that is not excusable on the basis of too recent advance. The fiction that a carcinoma of the breast can be "easily distinguished" clinically from an adenoma is perpetuated (page 889), and the pathetic list of signs of incurable cancer is cited under the heading of "diagnosis." The subsequent qualification that any suspicious lump should be regarded as cancer until proved otherwise is insufficiently stressed in view of the fact that this book is aimed at students on whom the future responsibility for early cancer diagnosis will rest.

The book is well printed and profusely illustrated. It is enlivened by an occasional misprint, as when the reader is informed that inoperable cancer of the bladder can be treated by radon seeds inserted through a "suprapublic" opening. Reference lists have been omitted, doubtlessly for economy of space, but in a modern textbook this is surely false economy.

In spite of its deficiencies, this manual remains one of the standard textbooks of surgery. The fact that it has gone through 18 revisions in over half a century is good indication of its general usefulness. Most of the deficiencies probably stem from the inevitable lag period that exists between the preparation and publication of such a comprehensive textbook. Some, however, are apparently due to a much too conservative attitude in accepting new developments in surgery.

Glaucoma: Pathology and Therapy. By Paul Weinstein, M.D., Associate Professor of Medical Ophthalmology, at University at Budapest. Translated by Julius Foldes, M.D., Director of Laboratories, Hazelton State Hospital and St. Joseph's Hospital, Hazleton, Pa. Cloth. $8. Pp. 295, with 36 illustrations. C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, 1953.

By his painstaking research and careful selection of the world's literature on glaucoma, the author has provided a résumé of a problem that still baffles the ophthalmologist. He points out that the water balance, the water-binding capacity of the blood proteins (oncotic pressure), and the daily changes of ocular tension are greatly influenced by the hypophysis. He gives an excellent discussion on the sinus venosus sclerae (aqueous veins), the glass rod phenomenon, the laminary veins, the plexus ciliaris (Kiss), and of the cystic emissarium (of Weinstein) and episcleral emissary veins, and concludes that "Kiss-Weinstein's emissaria play an essential role in the discharge of aqueous humor, and, in cases of simple glaucoma, their activity supersedes that of the aqueous veins." The author is convinced that, in those patients in whom a spontaneous pulsation of the retinal veins is present, the vision has been preserved. The presence of spontaneous pulsation of the retinal veins, therefore, improves the prognosis of glaucoma.

The text includes Barkan's classification of glaucoma, pathological-anatomic characteristics, clinical characteristics, and operation of choice. Under therapy, the author advocates, in addition to the usual therapeutic regimen in glaucoma, specific therapy such as the use of vasodilators for the improvement of retinal circulation. He also recommends this for the improvement of retinal circulation in chronic glaucoma. He points out that high blood pressure with some retinal pulsation is of prognostic import, because under these conditions the venous retinal circulation is at its best. When the blood pressure is low and there is no spontaneous retinal venous pulsation, vasodilators in conjunction with drugs that raise the blood pressure are used. For the lowering of venous pressure, intravenously administered hypertonic solutions (salt, glucose) are recommended. Any student of glaucoma will want to include in his personal library this concise, compact monograph, which places the world's literature at his fingertips.

The Social Insects. By O. W. Richards, M.A., D.Sc. Cloth. $4.75. Pp. 219, with 63 illustrations. Philosophical Library, Inc., 15 E. 40th St., New York 16; Macdonald & Co., Ltd., 16 Maddox St., London, W.C.1, 1953.

The author, one of Britain's foremost entomologists, has written a very readable account of the communal activities of bees, wasps, ants, and termites. The results of the most recent research in this field are described clearly and authoritatively to establish for the reader the contrast between insect and human societies. Although human behavior depends almost entirely on learning in early life, insect behavior is unlearned, "unintelligent," and rigid. Despite such a limitation, it is surprising to learn how insects have developed societies of diverse complexities.

Medicine. Volumes I and II. Edited by Hugh G. Garland, T.D., M.D., F.R.C.P., Physician in Charge, Department of Neurology, General Infirmary at Leeds, England, and William Phillips, M.D., B.Sc., F.R.C.P., Senior Physician and Physician in Charge of Cardiac Department, Cardiff Royal Infirmary, Cardiff. Foreword by F. A. E. Crew, T.D., M.D., D.Sc., Professor of Public Health, University of Edinburgh, Edinburgh. Cloth. $25 per set. Pp. 1077; 1078-2146, with illustrations. St. Martin's Press, 103 Park Ave., New York 17, 1953.

The editors of this book believe that the advances in medical knowledge in the last half century are too great to be comprehended by any one person. Consequently, any text that is to present the knowledge, experience, and wisdom of the present generation must be the joint effort of many workers. The present volumes include contributions from 40 distinguished specialists in the medical schools of Great Britain and Ireland, one from New Zealand, and one from Canada. Furthermore, as Professor Crew points out in the foreword, the essential humanism of medicine has not become adjusted with the ever-expanding science of medicine. The concept of a unifactorial causation of disease is no longer satisfactory. Disease causation has become multifactorial through expanding knowledge in such fields as genetics, developmental physiology, nutrition, psychiatry, and sociology. These changes have made manifest that both society as a whole and the profession of medicine need a clear restatement of the purpose and objectives of medicine. The practice of medicine, as well as the teaching, must remain incomplete unless medicine concerns itself not only with the cure and prevention of disease in the individual and in the group but also with the problems that are created by the personal and social consequences of such disease.

Almost half of the first volume is devoted to subjects not covered in most texts of medicine, such as assessment of physical and mental health, natural history of disease, social aspects of the etiology of disease, genetic factors in disease, psychosomatic medicine, and rehabilitation. A chapter on the patient as a person presents abstracts of psychiatric interviews of both adult and child, and points out in brief paragraphs the uses of psychological testing, intelligence tests, and personality assessment. A section on nutrition and disease discusses the relation of poverty, pregnancy, growth, dental health, and physical fitness to the development of disease. The remainder of the first volume includes sections on infection and immunity, neoplasms, principles of diagnosis in adults and in children, the place of radiology in diagnosis, laboratory methods, general principles of treatment, symptomatic treatment, the skin in general medicine, common fevers, tropical diseases, effect of physical agents, diseases principally encountered in industry, and aviation medicine.

The second volume contains sections on the description of systemic diseases, such as diseases of the digestive system and the cardiovascular system. The arrangement is not on an etiological basis in contrast to the usual plan of American texts. Thus measles and whooping cough are described in a chapter on acute respiratory infections in the section on common fevers, while the common cold and influenza are included in diseases of the respiratory tract. Meningococcic meningitis, poliomyelitis, tetanus, herpes zoster, rabies, and lead encephalopathy are grouped under infections and intoxications of the central nervous system. Kala-azar and amebiasis are found in the section on tropical diseases. The text is well written and exhibits a more conservative attitude than is usual in this country. Thus, the relation of rheumatic fever to a preceding streptococcic infection is suggested, but not accepted, and, while neostigmine is recommended for myasthenia gravis, any involvement of the acetylcholine-cholinesterase system is not mentioned. The volumes are long for a textbook and the sections lack the completeness desired in a reference book. They make valuable collateral reading, however, and contain much information not collected in most other medical texts. A few references are provided in some sections but more would be desirable. The index is complete, and the reproductions of roentgenograms are superior.

The Nature of Virus Multiplication: Second Symposium of the Society for General Microbiology Held at Oxford University, April 1952. [Edited by Paul Fildes and W. E. van Heyningen.] Half-cloth. Pp. 320, with illustrations. Cambridge University Press, Bentley House, 200 Euston Rd., London, N.W.1; 32 E. 57th St., New York 22, 1953.

This volume contains the papers and the discussions of the symposium. The papers were not read during the meeting but were previously circulated in galley form to those expecting to attend. The symposium consisted essentially of discussions of these papers by the authors, invited speakers, and the audience as a whole, who thus had an opportunity to consider carefully the material in advance. Certain of the discussions are, therefore, of unusual value to the reader in helping to evaluate the complex array of data and theory presented by 18 capable investigators of the fundamental but still highly obscure and controversial problem of virus multiplication. No doubt the present status of this problem led the conveners of the symposium to select it for consideration in order to summarize the numerous facts defined by recent research and the current hypotheses that seek to fit these facts into a unified conception of the manner in which viruses are reproduced. This objective has been admirably attained, and the qualified reader will gain a comprehensive view of the contemporary knowledge and the best thought on this subject. The first paper deals with modern theories concerning the synthesis of proteins and nucleoproteins in general. The synthesis of viral proteins and nucleoproteins is then discussed with particular reference to some of the plant viruses, and it is suggested that the same cellular mechanisms that are concerned with normal protein and nucleoprotein synthesis are involved in the production of virus, the latter serving only to direct these mechanisms into the somewhat peculiar activities.

The remainder of the book concerns multiplication as observed in bacteriophages, certain mammalian viruses, and in those infecting insects. The essential similarities between the reproductive phenomena in each of these groups are thus given emphasis. To most of the authors these phenomena seem to support the prevailing concept of viral multiplication: the virus, in some as yet undefined manner, acts as a "stimulant" or "template" in a synthetic process whereby its own reproduction is accomplished and that involves in whole or in part the enzymes of the cell. Two older views find only occasional defenders. Indeed, the idea, once shared by many, that the virus simply activates a precursor that is a normal constituent of the cell somewhat in the manner that pepsinogen is converted to pepsin, is supported by a single investigator. In its simplest expression, the conception of virus as a minute, obligate, intracellular parasite, multiplying by binary fission, has been completely abandoned, although it is retained in a more complex form set forth in one excellent paper.

The book will represent a valuable addition to the virologist's library and should be of much interest to the biochemist and to others professionally concerned with the problem of growth. The format, typography, illustrations, and figures are excellent, as is likely to be the case with English scientific publications in general.

Human Neuroanatomy. By Oliver S. Strong and Adolph Elwyn, Associate Professor of Neuroanatomy, College of Physicians and Surgeons, Columbia University, New York. Third edition. Cloth. $7.50. Pp. 481, with 357 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2, 1953.

Since the second edition of this book (1948), there has been a great advance in our knowledge of neuroanatomy and neurophysiology. The present editor of this volume has revised the text to conform to the more recent accessions in these fields. Many sections of the book have been largely rewritten and expanded, particularly those portions dealing with nerve degeneration and the sections on the cerebellum, thalamic nuclei, and the reticular system of the brain stem. Important additions have also been incorporated into the chapters on the prefrontal areas and the cortical projection systems. In general, there has been a page-to-page revision of the entire text, with new illustrations added. The fundamental changes make this virtually a new book, a text that can be, as in the past, highly recommended.

Aspects of the Psychology of the Tuberculous. By Gordon F. Derner, Ph.D., Associate Professor of Psychology, Adelphi College, Garden City, New York. Psychosomatic medicine monograph. Cloth. $3.50. Pp. 119. Paul B. Hoeber, Inc. (medical book department of Harper & Brothers), 49 E. 33rd St., New York 16, 1953.

In this period in medical history, when the relationship of the mind-body configuration to disease is being stressed, the author considered it worth while to examine the psychological aspects of a disease with a long history of psychosomatic interest. His method of appraisal included the use of clinical interviews, standard psychological tests, and specially designed tests. The questions asked concerned the specific and characteristic feelings and reactions of the patients. The degree of psychopathology and the prevalence of *spes phthisica* were investigated. Some of the findings included (1) the conclusion that there is no unique tuberculous personality but a wide variety of disturbed behavior; (2) traumatic reaction to diagnosis of tuberculosis was reflected in projections and dreams; (3) the most frequent emotions were fear, apprehension, and depression (most patients were optimistic about prognosis but did not show *spes phthisica*); (4) the most frequent thought was desire to leave the hospital and return to active living; (5) cough was the most frequent prediagnosis symptom; (6) most frequent suggestions were for better food, more individual medical interpretation, and other services; and (7) observations were made of low affectivity, emotional impoverishment, impoverished intellectual productivity, introversion and some emphasis on body-oriented ideas on the part of the patients. Derner suggests that rehabilitative procedures coupled with psychotherapy may help the patient choose a life goal appropriate for him. The effectiveness of psychotherapy as an adjunct to the presently prescribed methods of tuberculosis treatment offers an important research problem. This report, though limited in the numbers of patients studied (32), is a valuable beginning in a fruitful field.

Experimental Atherosclerosis. By Louis N. Katz, M.D., Director, Cardiovascular Department, Medical Research Institute, Michael Reese Hospital, Chicago, and Jeremiah Stamler, M.D., Research Associate, Cardiovascular Department, Medical Research Institute, Michael Reese Hospital. Publication number 124, American Lecture Series, monograph in Bannerstone Division of American Lectures in Metabolism. Edited by Paul György, M.D., Louis Leiter, M.D., Ph.D., and S. O. Waife, M.D. Cloth. $10.50. Pp. 375, with 37 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

This timely monograph by workers who have long labored in the field will prove of interest to a large group of researchers and clinicians. The authors have assembled and correlated the most significant contributions in this major area, including much of their own extensive clinical and laboratory experience. The list of more than 700 references is a contribution in itself. The use of these references in the text gives the reader some idea of what the original authors sought to establish, but, at least in some instances, their claims appear to have been presented without critical evaluation by the present authors. Perhaps this was intentional. The order of presentation of the subject is sound—beginning with the significance of this problem that probably overshadows all else in the study of the pathological changes of the human body. The authors properly lay the ghost of the theory that old age is the cause of atherosclerosis. It is vitally important that all workers adopt their attitude, namely a dynamic approach to this difficult problem, rather than the passive observation of natural phenomena. Emphasis on the metabolism of cholesterol, lipid and lipoproteins predominates throughout. This appears justified in the light of present knowledge. The relation between metabolism of these factors and sex hormones or other sex factors receives mention, but this important key deserves more serious consideration in such a work, and by all the workers in this field. This excellent compendium will serve as a useful tool and source of information for 1953 but will require frequent revision because of the enormous outpouring of work on this subject. It is highly recommended reading.

Isotopic Tracers in Biochemistry and Physiology. By Jacob Sacks, Ph.D., M.D., Associate Professor of Chemistry, University of Arkansas, Fayetteville. Cloth. $8.50. Pp. 383, with 25 illustrations. McGraw-Hill Book Company, Inc., 330 W. 42nd St., New York 36; 95 Farringdon St., London, E.C.4, 1953.

Isotopic tracer techniques as applied in studying the metabolism of carbohydrates, fatty acids, phospholipids, steroids, proteins, amino acids, nucleic acids, purines, and minerals constitute some of the subject material of this text. In addition, tracer studies on the blood, photosynthesis, radioactive iodine and the thyroid, the handling of radioactive isotopes, and the measurement of radioactivity are included. The text also provides an interesting chapter on the fundamentals of nuclear physics and radioactivity that serves as a basis for understanding the more detailed and technical material that follows. Physicians and other scientists working in physiology, biophysics, and biochemistry will find this a most useful text, provided they have a good basic knowledge of the physics and chemistry concerned.

Die Wirbelsäulentuberkulose und ihre Differentialdiagnose. Von Dr. J. E. W. Brocher, Archiv und Atlas der normalen und pathologischen Anatomie in typischen Röntgenbildern. Ergänzungsband 68, Fortschritte auf dem Gebiete der Röntgenstrahlen vereinigt mit Röntgenpraxis, herausgegeben von: R. Grashey, et al. Cloth. 78 marks. Pp. 272, with 376 illustrations. Georg Thieme, Diemershaldenstrasse 47, (14a) Stuttgart-O; [American agent—Grune & Stratton, Inc., 381 Fourth Ave., New York 16], 1953.

This work is one of a series of archives and atlases of normal and pathological anatomy in diseases that usually produce x-ray pictures from which diagnosis can be made. The author, an experienced roentgenologist, points out the frequency with which patients believed to have fibrositis, "the witches' shot" of the Germans, or the victims of rheumatic spines, are brought to the roentgenologist too late to permit an early diagnosis. He indicates that the patients on whose lesions the discussions in his book are founded, are not from hospital practice, because patients frequently enter the hospital in the late stages of their disease. He emphasizes the fact that the newer roentgenologic methods have been used. In view of the extensive bibliography appended to the text, the work is a reference book rather than an ordinary textbook, especially since the author clearly demonstrates that other conditions may closely simulate spinal tuberculosis and are difficult to differentiate without the guidance of an expert roentgenologist.

The book begins with nearly 100 pages devoted to the consideration of tuberculous spondylitis. The history of this disease is discussed briefly and, more extensively, its pathogenesis, symptomatology, laboratory diagnosis, local peculiarities, prognosis, and treatment. A final brief section in the review discusses the proper procedure in treating early cases in which, even after x-ray, the diagnosis is doubtful. The second section of the book discusses nontuberculous spondylitis of infectious origin, such as osteomyelitis of the spinal bones, the spondylitis of brucellosis, typhoid and typhus spine, and various infections of the vertebrae following abortion, sore throat, diphtheria, erysipelas, furunculosis, gonorrhea, influenza, carbuncles, leprosy, malaria, measles, cerebrospinal meningitis, pneumonia, smallpox, and anthrax. The third section covers ankylosing spondylitis, and the fourth section deals with so-called Scheuermann's disease, (also known as juvenile dorsal kyphosis, vertebral epiphysitis, vertebral osteochondritis, and juvenile osteochondritic kyphosis). The author regards this as one of the conditions most commonly mistaken for Potts' disease. Shorter sections discuss anterior fusion of vertebrae, separation of vertebrae, flat spine, congenital and acquired developmental failures, osteochondrosis, diseases accompanied by diffuse calcification, and primary neoplasms of the vertebrae.

There is an illuminating discussion of differential diagnosis, a short epilogue, nearly 10 pages of references, and a good subject index. The book is attractively bound in brown cloth;

the paper and topography are excellent, and the illustrations, a few of which are diagrammatic, are mainly excellent reproductions of roentgenograms. It is a well-written, systematic, and profusely illustrated treatise on the subject.

Individual and Community Health. By William W. Stiles, M.D., M.P.H., Associate Professor of Public Health, University of California, Berkeley. Cloth. $6. Pp. 492, with 134 illustrations. Blakiston Company (division of Doubleday & Company, Inc.), 575 Madison Avenue, New York 22, 1953.

This volume is especially well suited to the audience for which it is primarily intended, the college student. It is generously provided with excellent illustrations, and the various sections in each chapter have comprehensive lists of suggestions for supplemental reading. The discussion is presented in a well-written, easy-to-read style. The author has been careful to write with restraint but at the same time to present all aspects of the topics.

All the significant aspects of individual and community health are considered in the 17 chapters. Satisfactory orientation is provided in the opening chapter, which, by citing facts and figures, shows clearly the need for control of disease even though tremendous advances have been made within the last century. This progress is emphasized in more detail in the closing section of the book. Disease control measures are well described in a special chapter. It is difficult to select any outstanding chapters, but it can be mentioned that the consideration of sociosexual problems is especially informative, as are chapters on food sanitation, occupational diseases, maternal and child care, and the final chapter dealing with careers in medicine and allied sciences.

Pituitary Chromophobe Adenomas: Neurology, Metabolism, Therapy. A Clinical Study of the Sellar Syndrome. By John I. Nurnberger, M.D., Research Associate, Institute of Living, and Assistant Clinical Professor of Medicine (Neurology), Yale University School of Medicine, New Haven, Connecticut, and Saul R. Korey, M.D., Associate Professor of Neurology, School of Medicine, Western Reserve University, Cleveland. Cloth. $7. Pp. 282, with 35 illustrations. Springer Publishing Company, Inc., 44 E. 23rd St., New York 10, 1953.

This monograph consists of a comprehensive review of the literature on chromophobe adenomas and an analysis of 117 cases observed at the Neurological Institute of New York and the medical services of the Columbia-Presbyterian Medical Center from 1929 to 1948. The normal structure of the hypophysis and hypothalamus and the pathological changes encountered in chromophobe adenomas are described, and the neurological and metabolic disturbances associated with these pituitary tumors are discussed. Treatment by radiotherapy, surgery, and medical management are discussed briefly. The book is well illustrated and contains over 400 references.

Human Blood Coagulation and Its Disorders. By Rosemary Biggs, B.Sc., Ph.D., M.D., Graduate Assistant in Department of Pathology, Radcliffe Infirmary, Oxford; and R. G. Macfarlane, M.A., M.D., Clinical Pathologist to Radcliffe Infirmary, Oxford. Cloth. $8. Pp. 406, with 60 illustrations. Charles C Thomas, 301-327 E. Lawrence Ave., Springfield, Illinois; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

Biggs and Macfarlane, having long experience in the field of blood coagulation, have produced a splendid monograph on this subject. The introduction deserves careful reading by all students of medicine regardless of the stage of their career. Those contemplating or involved in medical research will especially appreciate it. The complications and pitfalls of past work in this field are reviewed with care and penetrating skill. The following chapters cover the known aspects of the mechanism of clotting and much that is speculative. The second portion of the volume is devoted to disorders of blood coagulation, including fibrinogen deficiency, hypoprothrombinemia, the coagulation defect in hemophilia, platelet deficiency, natural anticoagulants, thrombosis and anticoagulant therapy, artificial coagulants, and hemostatics. As an addendum an informative section on the newly recognized Christmas disease and Christmas factor has been added.

Appendixes of considerable practical value deal with the differential diagnosis of coagulation defects, the preparation of reagents, and technical methods. A bibliography of more than 900 references represents a wise selection of world literature in this field. The extensive experimental and clinical experience of these authors adds greatly to the significance of this volume. Their observations on thromboplastin have opened new vistas in the study of hemophilia and related disorders. In a field in which knowledge and theories are still in a constant state of change, this volume stands as an excellent milepost of progress. It is recommended to physicians who are interested in the problems of thrombosis and hemorrhage.

***Recent Progress in Hormone Research: The Proceedings of the Laurentian Hormone Conference.* Volume VIII.** Edited by Gregory Pincus. Committee on arrangements: R. W. Bates, et al. Cloth. $10.80. Pp. 603, with illustrations. Academic Press, Inc., 125 E. 23rd St., New York 10, 1953.

The proceedings of the ninth Laurentian Hormone Conference, which took place in Quebec, Canada, in September, 1952, are divided into four sets of papers on (1) chemistry and biochemistry, particularly the analysis of adrenocorticosteroids; (2) diseases of adaptation, i. e., adrenocortical physiology; (3) physiology of female reproduction; and (4) the role of the growth hormone and the roles of hormones in in vitro synthesis of lipids. The papers are by experts in their fields, the presentations are clear, and the discussions are lively. Perhaps the most interesting papers to practicing physicians are those by Thorn, Jenkins, and Laidlaw on human adrenal response to stress, by Bauer and Clark on the adaptation concept applied to diseases of the connective tissues, and by Huggins, Bergenstal, and Cleveland on the adrenal in cancer. All of the papers are worth skimming, however. The book is well illustrated, indexed, and bound.

A Guide to Obstetrics in General Practice. By William C. W. Nixon, M.D., F.R.C.S., F.R.C.O.G., Professor of Obstetrics and Gynaecology, University of London, London, and Eric B. Hickson, M.R.C.S., L.R.C.P., D.R.C.O.G., Chairman, Wiltshire Local Obstetric Committee, Wiltshire, England. Cloth. $6. Pp. 301, with 35 illustrations. Staples Press, Inc., 70 E. 45th St., New York 17; 83-91 Great Titchfield St., London, W.1, 1953.

This guide to obstetrics has been written for the general practitioner, the obstetrician, and the midwife. Its authorship is unique in that it includes the professor of obstetrics at the University College Hospital, London, and a general practitioner in a semirural area. The contents of the book include: (1) obstetric questions that have appeared in the *British Medical Journal* during the past five years, (2) an analysis of midwives' calls in the county of Wilshire, (3) work in the obstetric unit, University College Hospital, and (4) the experiences of the authors. These sources have provided a very practical book that should prove useful to those concerned with obstetrics.

Normal and abnormal obstetrics are covered completely, although operative procedures suitable for the obstetrician are omitted. An excellent chapter on nursing and the practical care of the newborn was contributed by Harold Waller, a pediatrician. Analgesia and anesthesia are discussed by Shila G. Ransom, an anesthetist. The emotional aspects of pregnancy, labor, and the important period of the puerperium are intelligently discussed by a psychiatrist, Elizabeth Tylden. Simple line drawings illustrate the text, and a few well-chosen photographs have been used. Many statistical tables emphasize some of the pertinent discussion. Most chapters contain a few key references. The appendix contains a list of the contents of an obstetric bag, record forms, and useful information.

Although some of the obstetric practices do not conform with those in the United States, most principles advocated are sound. This book provides an excellent guide for those interested in obstetrics, particularly in rural areas where many women are still delivered in their homes.

QUERIES AND MINOR NOTES

HYPERTENSION

To the Editor.—*What is the prognosis of a 25-year-old white woman who has had known hypertension (140/190 to 180/110 mm. Hg) since the age of 14 and persistent albuminuria, with casts and red cells in the urine on several occasions. The patient recalls an episode of "kidney trouble" at age 8. She is asymptomatic, and there are no positive physical findings except the hypertension. Results of the following tests and procedures have all been within normal limits: complete blood count, determination of nonprotein nitrogen, a Mosenthal test, phenolsulfonphthalein excretion, intravenous pyelogram, chest roentgenogram, and electrocardiogram.*

M.D., California

Answer.—It is important to determine the rate at which the vascular disease is advancing as measured by eyeground examination, heart size, and renal function. The latter preferably should be measured by one of the clearance tests or by maximal ability to concentrate urine (Addis' test). The details of such examinations will be found in Page and Corcoran's "Arterial Hypertension: Its Diagnosis and Treatment" (Yearbook Publishers, Chicago, 1951). While the vascular disease seems to have advanced slowly, the prognosis is still not good. This outlook might be modified if it were found that pyelonephritis was the cause of the malady or that pheochromocytoma was present. It is especially important that these be investigated because of the good results that follow treatment. Although pheochromocytoma is unlikely, it is a remote possibility. Arterial pressure if persistent at high levels may be lowered by systematic and prolonged trials with hydralazine (Apresoline) hydrochloride, hexamethonium, and a low salt diet.

CALCIUM FOR UTERINE INERTIA

To the Editor.—*I recently read an article that mentioned the use of calcium gluconate for the treatment of uterine inertia and for the induction of labor. Please give more information concerning the indications and contraindications for its use.*

J. Harold Schultz, M.D., Minneapolis.

Answer:—It has been shown experimentally (*Proc. Soc. Exper. Biol. & Med.* 38:550, 1938; *Am. J. Obst. & Gynec.* 37:194, 1939) that the coordinated activity of the uterus and its reactivity to oxytocic drugs is enhanced by increasing the available calcium. This has been confirmed clinically (*Am. J. Obst. & Gynec.* 41:948, 1941), and intravenously administered calcium has consequently been found useful in the management of uterine inertia (ibid.), in the induction of labor (ibid. 54:511, 1947), and as an adjunct to oxytocics in the control of postpartum hemorrhage (ibid. 61:1087, 1951). In uterine inertia, the primary effect of calcium is to enhance coordination and to increase efficiency of contractions. This effect is observed more consistently when the obstetric conditions are favorable, i. e., an engaged head and a soft partially dilated cervix. No deleterious effects (uterine tetany, fetal distress, or the like) follow the use of calcium. The drug ordinarily employed is calcium gluconate, in a dose of 10 cc. of a 10% solution. In patients who have been selected as favorable for the induction of labor, a hot soap suds enema is given, followed immediately by the administration of calcium. Castor oil or quinine are not employed. If labor does not begin in an hour or so, the membranes are ruptured, and oxytocin (Pitocin) is given intravenously if necessary. In the case of postpartum hemorrhage due to uterine atony, in which the uterus fails to respond to oxytocics, calcium often causes an instant return of uterine tone and dramatic cessation of bleeding. Hardy has reported favorably on the routine use of an oxytocic combined with calcium and concludes that this is preferable to the use of an oxytocic alone.

There are only two instances in which intravenously administered calcium should not be used in obstetric patients: (1) when the patient has been digitalized, since it may cause the heart to stop in systole and (2) when an undelivered patient has received oxytocin, since calcium may potentiate an oxytocic effect that has been established.

IRRITATION FROM ZINC CHLORIDE POWDER

To the Editor:—*An electrician works with a mixture consisting of equal parts of zinc chloride and ammonium chloride powder, and in this work a moderate amount of smoke is produced. The work is done in a confined space, and smoke fills the room. Would occasional exposure to this material, under the above circumstances, be harmful?*

Irving Berlin, M.D., Newport News, Va.

Answer.—Zinc chloride is an active irritant to the skin, eyes, and mucous membranes and is freely soluble in water, tears, and sweat. It is a hygroscopic as well as a caustic agent. Nasal septal perforation may occur. Ammonium chloride is almost innocuous. Since this work is done only occasionally, the exposed workman may be wise to wear temporarily a respirator and may profit by the application of a "barrier" cream to exposed skin surfaces. Although the exact operation is not fully described, the suggestion is made that, if practical, a substitute be found for the zinc chloride.

RAYNAUD'S PHENOMENON

To the Editor:—*Kindly advise the optimum location in this country or Hawaii for a patient who has Raynaud's disease. She is 34 years old and shows progressive involvement of the fingers. Only 4 of the 12 months of the year are warm enough in this locality for her to be relatively symptom-free, despite the use of tolazoline (Priscoline).*

Orin Q. Flint, M.D., Delhi, N. Y.

Answer.—Raynaud's disease is rare. In most patients showing Raynaud's phenomenon a definite cause can be found, such as early scleroderma, the presence of a cervical rib, thromboangiitis, cold agglutination, cryoglobulinemia, or hypometabolism with anemia. Assuming no such cause is present, a steady environmental temperature of not less than 82 F does benefit the patient, but emotional factors, which are notably operative in vasospastic disease, are still active. The anxiety state of the patient must be allayed. Sympathectomy is useful when trophic changes or ulcerations occur.

SCLEROTHERAPY

To the Editor:—*Is sclerotherapy (not electrotherapy) for varicose veins contraindicated in cases of hypertension, cardiac disease, or arteriosclerosis and in cases in which phlebitis was present in the extremities several months previously?*

Charles H. Codelle, M.D., New York.

Answer.—Sclerotherapy for varicose veins is not contraindicated in cases of hypertension and compensated cardiac disease. It is not contraindicated in cases of general arteriosclerosis, but is contraindicated in cases of arteriosclerotic peripheral vascular disease unless the collateral circulation is very adequate. It is not contraindicated when the extremities have exhibited phlebitis several months previously, but such cases should be carefully followed for any indication of phlebitis other than strictly local chemical phlebitis. Prompt institution of anticoagulation therapy is indicated if either spreading superficial phlebitis or deep phlebitis occurs.

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically so stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

BILATERAL SALPINGECTOMY

To the Editor:—*A woman, 26, had a bilateral salpingectomy five years ago for an acute recurrence of an old salpingitis. Both the patient and her husband are anxious to have children. Has a plastic tube been developed that can be sutured close to ovaries and into the uterus with even a remote possibility of successful impregnation?*

L. Nelson Bell, M.D., Asheville, N. C.

Answer.—The plastic tube to which reference is made in this query is obviously the polyethylene tube. Polyethylene has been used in various types of plastic surgery, and in the field of gynecology it has recently been used by a few surgeons in plastic tubal surgery for maintenance of tubal patency after salpingostomy for tubes occluded at the fimbriated ends, or after resection of the occluded inner portions of the tube, with tubouterine anastomosis by one technique or another. While some encouraging results have been reported, it is much too early to appraise the value of the polyethylene tube for such indications. So far as known, there has been little or no experience with it in cases in which both tubes have been previously removed, as in the correspondent's case. Cornual implantation of one or both ovaries would be the plan selected by most gynecologists to give this patient at least a theoretical chance for pregnancy. In general it may be said that gynecologists are not enthusiastic about the results with any of the above-mentioned procedures. Because of this, there are even some who consider them unjustified. The majority, however, believe them to be justified in a few cases, but only after thorough preliminary studies and only after a fair and honest explanation to the couple as to the relative slimness of the chances for success.

MÉNIÈRE'S DISEASE

To the Editor:—*A 69-year-old widow with Ménèire's disease is alone much of the time. Her attacks usually occur two or three years apart. During the past six months, however, she has had two attacks. Is there any drug she could take to help abort an attack when it first begins? This problem is important because once an attack begins she does not have time even to walk to reach help by telephone or medicament before she is completely incapacitated by the extreme vertigo.*

Gerald C. Haskell, M.D., Springfield, Ohio.

Answer.—Diphenhydrinate (Dramamine) is of some benefit in lessening the severity of the subjective vertigo in Ménière's disease, but it in no way prevents or aborts an attack. Surgical destruction of the labyrinth, according to the method of Cawthorne and Day, should be considered in cases of incapacitating vertigo, where the process is confined to one ear with a severe hearing impairment.

BISHYDROXYCOUMARIN THERAPY DURING PREGNANCY

To the Editor:—*Does bishydroxycoumarin (Dicumarol) therapy have any effect on the fetus during pregnancy? A 38-year-old woman, when six months pregnant, was treated with bishydroxycoumarin for 21 days for acute, deep thrombophlebitis. Immediately after delivery, the infant had almost exsanguinating gastrointestinal hemorrhages, which were controlled with massive doses of vitamin K. The infant had a left clubfoot but was otherwise normal.*

Joseph Alvarez, M.D., Oakland, Md.

Answer.—There is an excellent review of the subject of antepartum bishydroxycoumarin therapy by Mansell (*Am. J. Obst. & Gynec.* **64**:155 [July] 1952). Calves newly born of cows fed spoiled sweet clover hay showed hemorrhagic tendencies and were more sensitive to this agent than were the mature animals. Likewise, after therapeutic doses of bishydroxycoumarin were administered to pregnant dogs, the newborn pups showed hemorrhagic tendencies, and none survived unless vitamin K was given. In humans, varying results have been reported. In one report, a newborn baby had cerebral and severe subcutaneous hemorrhages, and in another a baby had hemorrhages of the lungs, thorax, and pericardium; however, in some studies there were no apparent harmful effects in either the mother or the child. Mansell reported on five patients who were treated antepartum with bishydroxycoumarin, and in all these cases the babies were normal. In two cases, therapy was instituted during the most critical part of the life of the fetus, that is, in the first trimester, and yet no deformities of the baby occurred. Mansell concluded, from the fact that none of his five patients aborted or had episodes of uterine bleeding and that no fetal abnormalities occurred, that, when safe levels of prothrombin time (25 to 30 seconds) are maintained during bishydroxycoumarin therapy, there is nothing to fear, so long as vigilance is practiced.

COLD TREATMENT OF SPRAINS

To the Editor:—*Modern first-aid treatment of joint injuries, such as sprains, seems to be the application of cold. Bags of cracked ice are seen on the field for immediate application to knees injured in football. Has cold therapy been demonstrated to have any advantage over the time-honored application of heat?*

M.D., California.

Answer.—The physiological basis for the application of cold in acute sprains and strains lies in the vasoconstricting effect of cold, whereas heat tends to cause vasodilatation. In an acute sprain or strain, subcutaneous hemorrhage may occur. Cold is applied in acute cases; with the intent of diminishing circulation and thereby decreasing hemorrhage and edema. Thus heat is usually not applied to a strain or a sprain until 24 to 48 hours after it is incurred. Later, when the tendency toward hemorrhage and edema formation has lessened, the application of heat is indicated in order to increase the blood flow to the area.

WATER CONTAMINATED WITH ENDAMOEBA HISTOLYTICA

To the Editor:—*Where there is risk of water contamination with cysts of Endamoeba histolytica, is boiling of the water the only reliable method of insuring that the water is free of these infectious agents? How long should the water be boiled?*

Paul E. Adolph, M.D., Wheaton, Ill.

Answer.—Boiling the water is the only reliable method of insuring that drinking water is free of the organisms in question. The water should be boiled for at least 15 minutes.

SHAVING THE EYEBROW

To the Editor:—*There has been some debate on our staff concerning the feasibility of shaving the eyebrow in cases of lacerations in that location. Some feel that eyebrows should never be shaved because they might not grow back. Others maintain that for good surgical technique the site of laceration should be shaved and also that the eyebrows always grow back. Would the physician be liable if the eyebrows did fail to grow? Can you help us settle this issue?*

Louis Gianvito, M.D., Staten Island, N. Y.

Answer.—Shaving the eyebrow in cases of lacerations requiring surgical repair is optional with the surgeon and is indicated for surgical cleanliness or to facilitate repair. Shaved eyebrows will be fully restored if not otherwise destroyed.

QUINIDINE

To the Editor:—*Has permanent impairment of hearing been reported following the administration of quinidine?*

John P. Gifford, M.D., Vero Beach, Fla.

Answer.—As far as can be determined, a search of the literature fails to reveal a report of permanent impairment of hearing following the administration of quinidine.

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OPPORTUNITIES AND RESPONSIBILITIES OF THE PHYSICIAN IN WORLD AFFAIRS

CHAIRMAN'S ADDRESS

I. Ridgeway Trimble, M.D., Baltimore

One of the prerogatives of the chairman of any organization seems to be that in his farewell address it is permissible for him to stray from the narrow confines of a strictly scientific path to the broader avenue of philosophy. My subject concerns the opportunities and responsibilities given to the physician and the surgeon to aid in the prevention of the war that seems to be daily drawing closer and to make obsolete the recourse to war as the attempted settlement of political and ideological differences. This is a big order, a difficult assignment, but at the beginning I should like the purport of these remarks to be clear.

I do not want to be in the category of the politician who had been addressing a large crowd of people at some political gathering in North Carolina for a considerable time. A man attracted to the scene asked one of the listeners on the fringe of the crowd, an interested farmer, "Is he making a good speech?" The farmer replied, "He's making a powerful speech." "What's he talking about?" asked the visitor. "He ain't said," replied the farmer.

For a few moments, therefore, I would like to develop the following related thoughts: that only international understanding will prevent war; that physicians have a common language and enjoy the confidence of the people more than any other profession; that physicians know the true meaning of war better than anyone else; that politicians and statesmen and soldiers have thus far failed to prevent wars; and that physicians have a great opportunity and obligation that they must seize and fulfill without further delay.

Furthermore, I feel impelled to bring these thoughts to your attention for your critical evaluation and to stimulate your interest in this whole subject, because they represent an effort to ease the fearful burden that we are passing on to our children. From our fathers we inherited a world that was bright and full of promise. To our children we leave a world over which hovers the ever darkening cloud of a warfare so dreadful as to surpass the imagination, so dreadful that we seek to ignore it by forcing all thought of it into the background of our consciousness. We cannot sit by complacently; we must think of and plan constantly for ways and means to protect in the future those lives for which we are responsible.

THE FUTILITY OF WAR

"Important as preparedness for war may be, evidence is increasing that military success alone is no guarantee of peace. On the contrary, history would suggest that civilizations ultimately face extinction if war is their sole method for achieving international accord. Perhaps more important for our own security than perpetual mobilization is the assurance that the opposite shores of the Pacific, as well as the Atlantic, are in friendly hands. One of the most important instruments, properly used, in the cultivation of such friendly understanding is the role of medical education." [1]

To every thinking man the futility and absurdity of war is so manifest that it is difficult to realize that this is not universally appreciated. Leonardo da Vinci disposed of war in two words, "Pazzia bestialissima" (the most bestial madness).

We have the very recent lesson of the inability of war to settle world problems when we reflect that, after victory in World War I, we fought our former allies in that war, the Italians and the Japanese, in World War II; and when we reflect that, after victory in World War II, we are fighting in the Korean War against China and Russia, two of our great allies in World War II.

The farmers in North Dakota, in North Borneo, and in North Korea have the same basic desires: to have enough to eat, to have enough to wear, to have shelter over their heads, and to live in peace. The little Chinese peasant family, in that country that has always been until very recently our traditional friend, *does not want* to see its only son or any other member of his family go off to war any more than does the little American family. But none of these little families, whose sons do the fighting or who may themselves be blown to bits in this total

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Read before the Section on Surgery, General and Abdominal at the 102nd Annual Meeting of the American Medical Association, New York, June 3, 1953.

[1] Smyth, F. S.: Our International Responsibility in Medical Education, J. M. Educ. 26:360, 1951.

warfare, seem to have any voice in the decision to provoke or to commence a war in the present state of organization of civilization.

The late eminent biologist and philosopher, Dr. Edwin G. Conklin,[2] maintained that intolerance, bigotry, and prejudices were man-made and urged their elimination through the application of the true scientific spirit. The resemblances of all men, he believed, whether the Australian bushman or the philosophers of the most civilized countries, are greater than their differences. "Heredity is not responsible for social behavior, racial antagonisms are not born, but these antagonisms are carefully cultivated and developed."

"We may be reasonably sure, from the history of evolution, that the societies which survive will be the ones that can change to meet new conditions; and that those which crystallize their philosophies and their societies in any fixed, dogmatic form are eventually doomed. The dinosaurs were large and powerful; but the dinosaurs are dead."[3]

Mind you, I believe in arming strongly against threatened aggression and in fighting when you are attacked and your family, your home, and your country must be defended. In World War I, at the age of 17, I volunteered for the Army in 1918 and attained the proud rank of corporal in the infantry. In World II, I served as an Army medical officer four years overseas in Australia, New Guinea, the Philippines and Japan, the last one and one-half years on the staff of General MacArthur. I am still a member of the active Army reserve. As an aside, I might add that I agree with my former commander that once war is joined there is no substitute for victory.

But all this talk of war and chivalry does not preclude my thesis that by intelligent, coordinated, ceaseless effort, war as the settlement of political affairs can be made obsolete. As Nicholas Murray Butler said, "To reject eternal peace as an absurdity and as something foreign to the creed or to the temperament of any people is to proclaim oneself a barbarian and an enemy to all mankind. . . . Physical force, terrorism, despotism cannot accomplish the high ends at which civilization aims. Intelligence, sound moral standards and the spirit of service can do so, always have done so, and will continue to do so."

PEACE THROUGH INTERNATIONAL UNDERSTANDING

Shyness and unfamiliarity lead to misunderstanding, suspicion, and fear, which are largely responsible for the enmity that exists among individuals, communities, and nations today. If a driver blows his automobile horn at a motorist, he turns and scowls and looks upon the incident more or less as a personal insult. However, if he recognizes the driver as a familiar face when he turns, his irritation and suspicion vanish and he waves gaily. So often the rather fierce, forbidding look on the face of a stranger is put there by shyness and as a protective reaction. A quiet word, a casual comment, and the forbidding stranger becomes a genial companion.

Lasting peace can be possible only when people understand each other; understanding can come only when people can be given the opportunity to meet each other frequently, to listen, to talk, to discuss. The American people are great joiners and have a great affinity for traveling all over the country to meetings and conferences. Sometimes foreigners speak derogatively of this American characteristic, but it is a healthy custom. In Nashville, Tenn., I recently attended a meeting of the Society of Clinical Surgery, where members came from all over the country. In the same hotel was a national meeting of the African Violet Growers Association. They seemed to be having just as profitable a time and seemed to be spreading just as much understanding among themselves as we in our society.

Mr. Malenkov and almost all the high ranking members of the Soviet high command have never left Russia. No wonder they become introspective, ruminative, suspicious, and fearful. Think how much good it would do Mr. Malenkov to travel around a bit and attend meetings such as we do, especially such a one as the African Violet Growers Association.

Surgeons seem to travel more frequently and further to conferences than anyone else. I venture to say that had physicians and surgeons in 1861 been given the opportunity to travel and to meet and discuss their problems and to know and understand each other as we do today, they alone could have prevented the incredible catastrophy of our Civil War, rightly called by Adams the American Tragedy.

Science and learning are truly international and therefore should lead in creating international amity, so that scientific societies must take the lead in establishing cooperation and friendship among all nations. As an example of understanding resulting from free exchange of medical concepts, from frequent visiting in our medical circles, made easier of course by a common ancestry and a common language, is the close relationship between physicians and surgeons in the United States, Canada, Great Britain, Australia and New Zealand, and South Africa. I believe that our profession has played no small part in cementing the ties that exist between these countries, so close that even the wild statements released by the irresponsible pseudostatesmen of both countries cause little more than a trickle of annoyance and amusement over the calm surface of fundamental understanding that exists between us. We know and understand each other so well that we shall never fight a war on opposite sides.

UNIQUE POSITION OF THE PHYSICIAN

The trust and the confidence and the respect shown to the physician by his patients brings about a relationship that is unique. Even priests of the church cannot come so close to the man who is ill or whose family is ill as can the physician, who alone is familiar with the physical and mental requirements of his patients. He stands for hope and strength and is looked to for guidance and help.

As physicians, then, we have deservedly or undeservedly won the confidence of the common man more than have any other professional workers. The common man believes that we understand his problems and that we earnestly want to help him. We seem to him like a father in the presence of his children. Our counsel is sought for all sorts of perplexing problems in addition to those of illness. Such a relationship brings infinite power and infinite responsibilities.

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[2] Conklin, E. G.: Freedom and Responsibility: Biological View of Some Problems of Democracy, Boston, Houghton Mifflin Company, 1935.

[3] Winslow, C. E. A.: Economic Values of Preventive Medicine, Chronicle of World Health Organization 6: 191, 1952.

As physicians we have been educated and trained to prevent disease and epidemics, to cure and comfort the sick, to heal wounds, and to straighten the body. We, therefore, understand the dreadful ravages of war better than any other class of men. As physicians we have a common understanding in our profession throughout the world. We speak the same language.

Physicians' regard for human welfare transcends their nationalistic feeling. In 1882, cholera, always lurking in India, sneaked across Egypt to Alexandria, and all Europe was alarmed.[3a] From France, Pasteur sent his assistants Roux and Thullier; from Germany went Koch and Gaffsky. The rivalry was keen between the two commissions just as hatred was keen between Germany and France and just as bitterness was present between Pasteur and Koch. Each strove to beat the other in finding the cause of cholera.

Then one day a telegram came to the Germans, "Thullier of the French commission is dead—dead of cholera." Koch and Gaffsky immediately went over to their rivals and Koch was one of those who bore Thullier, the youngest of the investigators, to his last home. As he put wreaths over the wooden coffin, he said, "They are very simple but they are of laurel, such as are given to the brave."

Dr. Paul Hawley wrote me of another instance of this sort only last week. He stated that, when the Germans were driven out of Paris by our Army in World War II, the commanders of German military hospitals were ordered to sabotage their hospitals so that they would be unusable by the American and British forces. The German medical officers disregarded this order. In only one hospital was there any sabotage. In Hospital Beaujon, a hand grenade had been exploded in the telephone switchboard. All the rest of the hospital was ready for immediate occupancy and use, with x-ray apparatus in perfect working order, instruments in order in their cabinets, etc.

A PROUD RECORD

Our inheritance as physicians is a proud one, and our accomplishments, attained under a free system of individual enterprise, in the fight against disease stand out as the bright hopes of developmental science as opposed to the questionable advantage of other scientific accomplishments, such as the development of increasing speed, increasing explosive force, and increasing toxicity of chemical agents. As an evidence of their high regard for physicians, the general population has voted our profession the only one subject to draft in the armed forces.

The medical profession in countries throughout the world where adequate educational facilities are available has waged war successfully against such epidemic diseases and other human scourges as the plague, smallpox, cholera, rabies, malaria, typhoid, yellow fever, diphtheria, hookworm, pernicious anemia, diabetes, syphilis, tuberculosis, pneumonia, and local and general bacterial infection, to cite only a partial list of achievements. The conquests of surgery over pathological lesions and congenital abnormalities of the abdomen, chest, brain, heart, and great vessels are well known to all of you. Time does not permit the mention of victories over disease in the domestic animal and the plant domains.

There are new frontiers for medicine, particularly for American medicine, because our country has assumed the leadership of all free nations. These are the opportunities for medicine and physicians to become leaders in the field of medical statesmanship. Political statesmanship and armed might alone have not proved equal to the task. The physician, because of his prolonged and continued life of study, is trained to command. He seeks no political office and, because of that fact, his position for influence is greatly strengthened.

THE PHYSICIAN IN WORLD AFFAIRS

The influence of physicians in public affairs has waned greatly in the past hundred years. There was a time when they were civic leaders as well as professional men. To that position they must return. But they cannot return if they remain within the confines of their medical duties, pursuing blindly and furiously their limited objectives. First of all they must fulfil their primary function of healing the sick, of course, but they must raise their sights. They must use their intellect and their energy ceaselessly to plan and to act in this great struggle to prevent the destruction of civilization as we know it today.

For the physician to remain strong and to increase his influence in medical and world affairs he must remain free and independent. Commenting on the triumphs of the medical profession over disease, Dr. W. Edward Gallie of Montreal stated, "And as I think of this glorious era, I cannot help wondering if it could have happened under state medicine. Would the fires of research have glowed as brilliantly under bureaucrat direction and political control as they have in the immediate past? Could management by the civil service have been as successful in attracting these bright young minds to the study and solution of the problems of health and disease? My experience with politics and the civil service makes me doubt it and makes me think that we should avoid at all cost the introduction of socialistic changes. . . . The spectacle of what is going on in England and New Zealand with their schemes of state medicine, is quite enough to drive bright and clever young men into other fields of endeavour. At any rate there will be no sons of doctors entering medical school if state medicine comes. I would venture to predict that with the advent of socialized medicine, as it is advocated by the socialist and communist parties, this golden age of medical discovery will come to a close and we shall enter a period when progress in the study of health and disease will bog down to the speed of the civil service. The idea that medical research can be kept alive by government grants is just silly if it turns out, as I think it will, that the bright boys no longer want to be doctors and will no longer enter the schools."[4]

PRESENT TRENDS TOWARD HELP

There exists a wide and ever-increasing groping toward effective means to promote international understanding. We in America have such a strong belief that our way of life and our system of government offers the

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3a. de Kruif, P.: Microbe Hunters, New York, Harcourt, Brace and Company, Inc., 1926.

4. Gallie, W. E.: Problems of Practice, Maryland M. J. 1:315, 1952.

best opportunity for a free, happy, and peaceful existence that we are almost childlike in our enthusiasm to convey our concepts to others. Certainly, we have no imperialistic motives. In my early memory, such organizations as foreign missions of our churches, the Rhodes scholarships, and the Rockefeller Foundation were associated with schemes to promote international good will, but only recently have I appreciated the full significance of this principle.

Whatever may be said by the critics of the outpouring of dollars, materiel, and personal effort from many individuals and agencies from the United States to the peoples of the world since World War II, it cannot be denied that all of this represents a spontaneous generosity from millions of Americans heretofore unheard of in the history of the world. Now, however, the time has come, in fact is long overdue, when we should insist that our donations be distributed in a business-like manner, fairly but economically. The supply of the old milch cow is not inexhaustible. Since the end of World War II, our government has spent 40 billion dollars through various kinds of official aid to help other countries. But along with some gratitude, we have won large measures of distrust and ill will. In many parts of the world never has our prestige been lower. This is not a dollar problem. It is a human problem. People in other countries want a helping hand, not a handout; they want dedicated help, not money bag help.

They are not won over by the mere mention of dollars, or by the gesture of throwing largesse to beggars. Our purpose should be to assist less fortunate nations to stand on their own feet. It is not the responsibility of the United States to supply enough chlorophenothane (DDT) powder to eliminate malaria in India, but to instruct the Indians, as is now being done at Delhi, how to make factories to manufacture their own chlorophenothane. "It is just this difference between doing the job for them and helping them do it themselves that will make or break our entire foreign policy. To do the job for other nations is nothing more than a continuation of the hated colonial imperialism. To help other nations become self-sufficient is the true spirit of the commonwealth of free nations, which is our objec'ive." [5]

ADVANTAGES TO OUR OWN NATION

This whole program of help to other nations holds very definite advantages to our own nation. We cannot afford to contemplate visions from an ivory tower. We are working day by day in a tough and practical world. In the first place, the commonwealth of free nations is waging a campaign against a disease that threatens to become pandemic and destroy life as we know it today. I speak not of a biological disease but of the political disease of communism. Communism thrives on ignorance, hunger, and disease.

The life-span in northwestern Europe, North America, Australia, and New Zealand (the so-called developed areas, where one-fifth of the population of the globe lives) is an average life expectancy of 63 years. In another group of "undeveloped areas," including the homes of nearly two-thirds of the world population, the life expectancy is only 30 years. This simple fact emphasizes in dramatic terms the major problems of the human race today. Morbidity takes an even greater toll of our economic resources than does premature mortality. In the case of the mosquito-borne diseases, the malaria control in the Philippines reduced school absenteeism from 50% daily to 3% and industrial absenteeism from 35% to 4%. In Liberia, there is only one physician to every 63,000 inhabitants. In India, mothers who know that 7 out of every 10 babies born to them will die in infancy or childhood are easily persuaded by the propaganda of the Communists.

One of the most important tasks we have today is to win the people of Southeast Asia into the commonwealth of free nations. Indeed, the peace of the world could well depend on it. Southeast Asia (Indochina, Thailand, Burma, and Malaya) in other hands, as it was in 1942, opens the great plains of India and Pakistan, the islands of Indonesia and the Philippines, and the continent of Australia to conquest. We recently lost the Chinese ballgame 400 million to nothing; we cannot afford to lose these other peoples as well.

It appears that by strange coincidence, our two former principal enemies, recently defeated in World War II, must in the future form our principal outposts of defense against the Communists. If these two nations can be won over to embrace the principles of democratic government, rearming them gives the free nations immeasurable strength; but if, when armed, they return to their totalitarian background, rearming them may prove disastrous. There is no surer way to win them over than to have their physicians brought into our medical orbit.

FELLOWSHIPS AND FUNDS

To promote the advancement of science throughout the world, there are an increasing number of fellowships, funds, and prizes available for graduate study and research in medicine and allied sciences, through associations, foundation funds, institutions, and others. A list of over 200 such donating agencies in Canada and the United States is kept on file by the Association of American Medical Colleges, whose headquarters is in Chicago.

There are the private funds, such as the Rockefeller Foundation and the Ford Foundation, and in recent years very valuable help has been given through two sources. One is the Fulbright Fund, which is derived from the surplus war material in foreign countries belonging to the United States and sold into commercial channels, the proceeds being made available for scholarships to and from these countries. Such scholarships are awarded on a competitive basis. The other source is through the Smith-Mundt Act. This fund provides a sum of money for leaders from other countries to come to the United States.

The World Health Organization (WHO) is a specialized agency of the United Nations. As such, it inherits the functions of the Office International d'Hygiene Publique, the Health Organization of the League of Nations, and the Health Division of UNRRA. In its seven years of existence WHO has proved that nations can work together on common problems without losing any of their national sovereignty. Its budget for 1954 is $8,487,700. The United States' share of this budget will be about one-third of the total, or $2,800,000. Assessments are made against 70 member states and three associate members.

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[5] Moore, R. A.: New Frontiers of American Medicine, North Carolina M. J. 13:457, 1952.

Recently, the Point-4 Program has been transferred from the State Department to Mr. Harold E. Stassen, the Mutual Security Director. Point 4 was so named because it was the fourth point in Mr. Truman's 1948 inaugural address and proposed technical aid to underdeveloped countries. It was administered under an agency organized for this purpose, the TCA (Technical Administration Cooperation). Under Mr. Stassen also falls the agency that was set up to administer the Marshall Aid Plan for Western Europe. It was originally called the ECA (Economic Cooperative Administration) and was subsequently renamed the MSA (Mutual Security Agency). Under a new plan these agencies have been taken over by the new Foreign Operations Administration. There is the United Nations International Children's Emergency Fund (UNICEF), which has been doing work of the greatest importance.

The United States Public Health Service for this past year has participated in health programs of 20 countries of the Near East, Far East, and Southern Europe, as well as in 18 countries of Central and South America.

In this connection, mention should be made of the value of visiting medical teams such as those organized by the Unitarian Service Committee, working in conjunction with our State Department. These teams in Poland, Germany, Japan, South America, and other countries have demonstrated beyond all doubt that American, British, and Scandanavian medical educational methods and techniques are received with the greatest enthusiasm by these countries. The descriptions of the impression made by the first operation in Berlin for congenital heart defect by Dr. William P. Longmire, and the first pneumonectomy in Bogotá, Colombia, performed by Dr. George Humphreys, are heartening to read.

As one studies this subject, one becomes encouraged by the ever-increasing number of people donating their time and their money to such organizations as Agricultural Missions, American International Association for Economic and Social Development, Band of Christophers, CARE, English Speaking Union, Experiment in International Living, Friendship Stations, Interdependence Council, National Committee for a Free Europe, and World Neighbors, to mention only a few. Some of the individual physicians who have been keenly interested in this problem of the promotion of international understanding through medical exchanges are Dr. M. H. Clifford of Boston; Dr. Edward L. Young of Brookline, Mass.; Dr. Thomas Greenaway of Sydney, Australia; Dr. Frances Scott Smyth of San Francisco; Dr. Robert A. Moore of St. Louis; and Dr. Eldridge Campbell of Albany, N. Y.

Such facilities as have been mentioned offer great opportunities to promote science and world peace. Perhaps the most important part of this work to physicians is the training program for foreign postgraduate students. Indisputable as the advantages of such a program may be and useful as it may be to our hospitals needing house officers, nevertheless, along with many others in this country, I have been disturbed by the procedures and methods used or followed in the training of the young men in medicine from foreign countries. I use the term postgraduate student advisably, because it is through this *group that our efforts can be made most effective*. It is not my idea to recommend the addition of more foreign physicians and more foreign medical students for practice in our own country. Every medical school here has more applicants from our native population than can possibly be admitted. Also, once a foreign student is here in medical school for four years and then several years more in training, he is likely to remain in this country and not to return home, where he is really needed.

First of all, in many instances, there has been insufficient screening of these young people in their own country to give assurance that those who come will greatly benefit by the experience or be of real help to the institutions in this country. Too many people with inadequate training have come to the United States, have taken the first job that was offered to them that paid any money, and have been at times exploited by the hospital that took them on. The continuation of practices of this type will injure international relations rather than improve them.

The language barrier is a serious one. It is irritating to the nurses, physicians, and patients in the hospitals involved, and puts the foreign house officers in a bad and unfair light. Too often the reaction is, "He seems to be pretty stupid; he can't even speak English."

A second complaint of hospitals in which the foreign house officer works is that many of these men have had poor or insufficient fundamental training at home. A third objection to this whole plan is that many have come from abroad who have never had any intention or returning to their own country after finishing their training. A fourth disadvantage lies in the unwillingness of some chiefs of service in our hospitals to put out a little extra effort to train these physicians on their staffs. These difficulties are all aggravated when a resident house staff has a number of foreigners to assimilate, each from a different country.

My belief is that the most efficient way to accomplish the desired result is by a plan that would give a continuing year by year liaison for unilateral or bilateral exchange of personnel between one hospital in this country and a sister hospital in a foreign country. There should, of course, be sufficient flexibility in the plan to permit the unusual person an opportunity to visit another institution, if there are sufficient reasons to recommend such a variation.

This arrangement would carry one step further the plan of our State Department for the past two or three years, which has been to try to develop a certain geographical zone of interest by each of our medical schools. For example, Washington University in St. Louis was asked to undertake this reciprocal arrangement with the University of Bangkok in Thailand; Harvard with the University of Calcutta in India; Columbia with the National Taiwan University in Formosa; and Johns Hopkins with the University of the Philippines. There have been similar requests to other universities in this country.

So far as I know, only the arrangement between Washington University and Thailand has been agreed on and given trial. This has met with great success. Dr. R. A.

Moore, the dean of the School of Medicine at Washington University, has been a leader in this whole program. His school was the first in this country to establish a cooperative teaching program under the Marshall Aid Plan, and in 1951 received a two-year grant-in-aid from the Economic Cooperation Administration, the administrative unit for the Marshall Plan, for this purpose. The results of this have been highly successful. Groups of outstanding Siamese have come to Washington University for postgraduate work, and during this past year seven faculty members from that school of Medicine have been sent to Bangkok as part of the teaching assistance program. These seven were associate professors in biochemistry, anesthesiology, obstetrics and gynecology, pathology, physiology, and surgery.

The Johns Hopkins Medical School has not yet entered into a formal arrangement with the University of the Philippines. Such a suggestion was made by the United States Department of State two years ago, and Hopkins indicated its willingness to participate, but nothing binding has yet been arranged. Three members of our school of hygiene are leaving this month for a year's residence in the Philippines.

An independent plan of great promise has been started with reference to Japan by Dr. Eldridge Campbell,[6] professor of surgery at the Albany Medical College. This is still in the stage of unilateral exchange, but it is this unilateral approach that is the most important one, and plans should not be held up for establishment of a feasible bilateral exchange.

Eighteen months ago Dr. Campbell visited Japan and Korea as surgical consultant for the Surgeon General of the Army. Before leaving the United States he asked the surgeon of the Far Eastern Command to have a number of well recommended Japanese medical graduates available for interview, saying that he could offer them a limited number of internships and assistant residencies, and that they must pay for their own transportation. To his surprise, 42 Japanese were on hand for the interview from all over Japan. He brought four to his school, four to Chicago, and one to Cincinnati. In Albany the two Japanese assigned to anesthesiology, the one in orthopedics, and the one in neurosurgery have done such good work that there is much enthusiasm for continuing this program with Japan. They have been elevated to the resident status for the coming year. The one assigned to neurosurgery in Cincinnati has turned out to be an unusually good student, a hard worker, and very popular with the staff; he has improved a deficient surgical technique with great rapidity, and has rapidly overcome initial difficulties in language. One of the Japanese in Chicago assigned to orthopedics has done so well that he will stay on as an assistant-resident. The three others have done very good work on the pathological service.

The American Army pathologists in Japan have organized a pathological society with the Japanese. This society is concerning itself with opportunities for postgraduate study in the United States to promising young Japanese. The College of American Pathologists in this country will place the men in positions where they will gain the experience that will fit them for their job in Japan when they return home.

Approximately 40 Japanese graduates are now on the intern staff of American hospitals in Japan. Japanes medicine was based on German medicine. Their hospita histories and their scientific papers and most of thei present text books were written in German. The disintegration of German medicine has left a void in Japa that this country could readily fill.

In Germany, the University of California in Los Angeles has recently entered into a reciprocal arrangemen in a limited way between its surgical service and that o the Free University of Berlin. Professor Linder of Berli has been offered an exchange professorship in Californi Recently the College of Physicians and Surgeons o Columbia University has been working on an affiliatio with the Free University of Berlin at staff levels and a residency training levels. In this past year Dr. and Mrs Hilton Read, physicians of Atlantic City, N. J., independently arranged for 27 interns to come from Germany t some of the hospitals in New Jersey.

The chair of surgery at the Peter Bent Brigham Hospital in Boston has for a long time invited a distinguished British surgeon as temporary occupant. St. Mary's Hospital (London) is about to begin an exchange of a junio staff member with the Children's Hospital of Boston Since the end of World War II there has been an activ and mutually stimulating exchange of senior staff surgica personnel between Guy's Hospital in London and th Johns Hopkins Hospital in Baltimore.

A training program of continuing reciprocal relationship between individual hospitals in this country an individual hospitals abroad is one that might be followe by other free countries where well-established medica schools have the same thing to offer as we do, such a those in Canada, Western Europe, Australia, New Zealand, South Africa, South America, and elsewhere.

The plan for this country would include the medica school hospitals, the independent hospitals associate with medical schools, the private clinic hospitals, an independent hospitals of other categories. All of thes hospitals must meet certain teaching and training standards if first class training is to be offered the candidate selected from foreign countries.

These candidates must be carefully screened by suc responsible agents as committees from their medica schools and hospitals. They must come over here wit the understanding that they are to return to their ow countries after completion of their training. Here, th coordination might be supervised by such permanen associations as the Association of American Medica Schools or the Institute of International Education.

Language difficulties present a barrier for successfu training. The ability not only to read and write English but to understand and speak it are essential for success in this program. The foreign governments concerned, i such a program is approved, should initiate courses o study in English that would prepare the candidates fo the assumption of their duties in American hospitals. Even in the various branches of medicine in this country, medicine has become so specialized that it seems that each group "can communicate only with those immured in the same mausoleum." A happy and unusual feature of the plan is that much of it could be carried out without subsidy from the government, but should have the approval of the State Department.

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[6] Campbell, E. H.: Personal communication to the author.

In all this effort, Americans should approach the problem vigorously but with humility, remembering the words of our own Secretary of State, John Foster Dulles: "Among other peoples, the Japanese, the Indians, the Mexicans, to name only a few, there are many who possess a love and appreciation of beauty, a capacity for human understanding and a richness of sympathy which we might well covet for ourselves. If we apply a true measuring rod, we will approach them humbly and not in a mood of lofty superiority."

CONCLUSION

In conclusion, I wish to restate that the physicians, who enjoy the real confidence of their people more than any other profession, who know the true meaning of war better than anyone else, and who have been given superior education, have a great opportunity and a great responsibility for world peace. They must assume leadership, they must not rest, they cannot die until they have by ceaseless application of their trained minds worked out and put into practice plans that will bring to their own children and to the world the one opportunity they may have to escape the disaster that daily appears more threatening. We must remember: "There are times when the future of this world of ours seems rather grim; and voices of discouragement and dispair are heard in many quarters of the globe. Since the days of the caveman, however, this earth has never been a Garden of Eden, but rather a Valley of Decision, which calls for all the toughness and the resilience which the human race has at its disposal."

8 W. Madison St. (1).

CHRONIC BLADDER IRRITATION IN FEMALES

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and
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"Bladder trouble" is extremely common in females of any age. In most of our patients with this complaint, we found the cause to be a simple infection in the urethra and trigone. To accurately determine the frequency of this lesion in our practice, we analyzed the records of 200 consecutive female patients seen for the first time in the office. It showed that in 74.5% the symptoms resulted from primary disease in the urethra and trigone. The remaining 24.5% had a variety of urinary tract disorders as seen in a general urologic practice. These were diagnosed as urethritis and trigonitis, 149 patients (74.5%); kidney and ureter stones, 23 (11.5%); acute and chronic pyelonephritis, 9 (4.5%); solitary renal cyst, 3 (1.5%); cystocele, urethrocele, or procidentia, 2 (1%); ureteral stricture and tumor, 2 (1%); exstrophy of bladder, 1 (0.5%); carcinoma of bladder, 4 (2%); ureterocele with hydronephrosis, 1 (0.5%); nephroptosis, 1 (0.5%); stress incontinence, 2 (1%); hydronephrosis, 2 (1%); and parathyroid adenoma with stone, 1 (0.5%). Since 75% of our new patients had lesions in the urethra and trigone, a further analysis of 200 of these cases was carried out to determine what common characteristics, if any, existed. The results of the study form the basis for this report.

The ages of these 200 patients ranged from 20 months to 78 years, with the greatest number in the middle years; 153 (76%) were between the ages of 30 and 60; 5 under 9; 3 between 10 and 19; 19 between 20 and 29; 13 between 60 and 69; and 7 over 70. This would indicate the importance of trauma as an exciting factor.

CAUSE

Infection in the urethra and trigone is the basic lesion in this group. Cause for this infection is not obvious. Glandular structures have been demonstrated at the external orifice and surrounding the distal portion of the urethra as well as in the submucosa of the proximal portion of the channel. Because of the position of the urethra and because of its wide caliber, it is reasonable to assume that these glands could be infected by direct contamination and ascending infection and that thus a focus could be set up in the glands that could persist for months or years. In addition, there is lymphatic communication between the cervix and base of the bladder, offering a further route for entrance of infection to this area.

The focus having been established, exacerbations can occur periodically to produce attacks of pyelitis in infants. In our young patients, these were actually attacks of acute urethritis and cystitis. The irritation from this focus can explain cases of enuresis in little girls. It may be a reasonable explanation for "honeymoon cystitis" in which trauma serves as the causative factor. This same mechanism explains postpartum and postoperative cystitis resulting from trauma to a latent urethral focus by the catheter passed to relieve bladder retention.

SYMPTOMS

The analysis showed that symptoms reported by these patients fell into three main groups, namely, urinary, referred pain, and nervousness. The common urinary symptoms were frequency, urgency, dysuria, nocturia, and lack of a sense of relief after voiding. Symptoms were not constant in all patients. In some, they occurred in attacks lasting one to several days. Attacks occurred at intervals of weeks to months, gradually increasing in severity and duration (table 1), with finally only short intervals of freedom from symptoms. Prominent in these histories is the chronic recurrence of symptoms. One 51-year-old patient stated she had had "bladder trouble"

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all her life. Also we found that acute cystitis could be readily controlled with medication but that it kept recurring at varying intervals until the cause was eliminated. It was also evident that recurring attacks of bladder irritation, regardless how mild, indicated disease of some type in the urethra or bladder.

Pain was the second commonest complaint occurring in 46.5%. The areas involved were suprapubic, 28 patients; right and left groin and pelvis, 13; lower extremities, 5; lower abdominal quadrants, 9; renal areas and flanks, 28; and lumbosacral, 10. It was an aching or burning pain constant in location, often varying with the intensity of bladder symptoms, and never associated with underlying tenderness. It was easily distinguished from the sharp, localized pain of acute cystitis. The referred pain in the abdomen, back, and legs with mild urinary symptoms, so common in chronic cases, can cause confusion since it may simulate pain of intra-abdominal, pelvic, or renal disease. A patient with slight bladder irritation and right flank pain had a right nephropexy, later, a right pyeloureteroplasty, and, finally, a right nephrectomy because of staghorn stone formation. The pain persisted and was relieved after elimination of an infection and stricture in the urethra. In this series, 18% of the patients had abdominal or pelvic operations to relieve pain that persisted postoperatively and that was relieved by correction of pathological changes in the urethra. It may be easy to assess the urethra as the cause of pain that is from other origin; only after all organic causes are eliminated can pain be attributed to the urethra.

TABLE 1.—*Duration of Symptoms*

Period of Attacks *	No. of Cases	Now Having Acute Attacks
Less than 1 year	15	3
1 to 5 years	34	13
6 to 10 years	13	3
11 to 15 years	10	4
16 to 22 years	13	5
Several or many years	32	4
Totals	117	32

* Before patient was first seen.

In this group, 28% complained of nervousness from the bladder irritation. Some suffered more from the nervousness than from the bladder irritation. Patients usually found this symptom hard to describe other than by saying flatly that they were nervous and it was caused by the bladder. Others mentioned bladder symptoms only until treatment caused improvement; then they described a sense of relief from nervousness. We found that nervousness was not related to duration but rather to severity of bladder symptoms. Treatment usually brought early relief from this nervousness. A common example of this type of complaint was seen in a capable, healthy, middle-aged woman executive. She had to take sedatives at work because of increasing nervousness. Urinary frequency, without dysuria, had bothered her for several years. Finally nocturia so disturbed her that sedatives were needed for sleep. Urinary tract study revealed a chronic granular urethritis and a tight urethral stricture. With treatment there was early and marked improvement in the nervous symptoms; the urinary symptoms were relieved after elimination of urethral abnormalities.

PATHOLOGY

The pathological findings in the order of their frequency included urethral stricture in 161 patients; granular urethral mucosa, 150; papillary masses in the urethral mucosa, 68; acute cystitis, 32; trigonitis, 33; cervicitis and vaginitis, 30; bladder trabeculation, 8; chronic Skene's abscess, 1; urethral cyst, 2; senile vaginitis, 6; female prostate, 5; trichomonas, 7. Urethral stricture was the commonest lesion, being present in 80.5%. It was found at either urethral orifice, with a slightly higher occurrence at the internal orifice. These strictures varied in size and resistance as in the male. In calibrating the urethra, bulbous bougies were used and no. 26 French catheter accepted as the normal caliber. Strictures in this group ranged from no. 14 to 24 French; the average size was equal to a no. 20 French catheter. We found symptoms just as severe from the wide as from the tight strictures. In three patients, trabeculation of the bladder was also found. Patients with stricture equal to a no. 14 to 16 French catheter complain of slowness and dribbling of the stream but not of straining to void as in the group with fibrosis at the internal orifice requiring resection.

The second commonest pathological finding was evidence of chronic urethral infection observed in 75% of the cases. This was primarily a granular process in the mucosa of the proximal urethra. Thickening or edema, with increased congestion of the mucosa, were also present. In children, the granulations, when present, were very fine, but the changes usually seen in the mucosa were edema and congestion. There was no definite correlation between the duration or severity of symptoms and the degree of pathological change in the urethral mucosa. In 93% there was an associated urethral stricture.

Papillary masses of varying size, shape, and number were found in 34% of the patients and always in association was stricture or evidence of infection in the urethral mucosa. Their presence did not signify unusually severe infection, and their removal alone did not relieve any of the patients. They have been observed in patients without symptoms, but in these the urethra was otherwise normal and there was no stricture.

In many there existed an associated mild trigonitis, not always mentioned in the findings in our records. Actually, this is an extension of the inflammatory process from the urethra. In 33 cases, however, the trigonal changes were pronounced because of the formation of a pseudomembrane over all or part of this area. In these patients, urinary symptoms were usually severe and constant, and these patients required more than the average period of treatment. In over 50%, we found associated infection in the cervix that could be responsible, in part, for this trigonal lesion.

In the patients with acute cystitis, there was usually an explosive onset with severe bladder pain and often gross hematuria. Most of these patients were not cystoscoped in the acute stage, but the few examined showed intense congestion of the vesical mucosa, with areal hemorrhages in the mucosa. In all of the cases in this series, there were the associated changes of chronic nature in the urethral musoca and urethral stricture.

In females, study of the urinary tract is not complete without pelvic examination. In this group, 30 patients had some degree of cervicitis or vaginitis, although the primary symptoms were urinary. It is difficult to cure infection in the urethra and bladder with infection persisting in the vaginal tract. This is particularly true of vaginal infections caused by Trichomonas.

In five patients in the group, we found fibrous obstruction at the internal urethral orifice severe enough to require excision. In these patients, there was associated trabeculation of the bladder. The tissue removed was fibromuscular and showed chronic infection. No glands were present in these patients, although we have found them in others not included in this survey.

URINE FINDINGS

The urine analyses were particularly interesting, since they showed that, in a group of 200 patients complaining of bladder irritation, 65% had normal urine (table 2). Due to the normal urine, many patients had been considered nervous or as having irritable bladders, and examination of the urinary tract had been deferred. Of the remaining 70 patients, 40 had pus (1 to 4 +) in the urine, and in 32 of these there was no pus in the kidney urine. On this basis then the pyuria encountered in 80% of these patients was limited to the lower urinary tract.

PYELOGRAMS

In urologic study, the urethra and bladder are first observed. Positive findings here may make further study seem unnecessary, if the history indicates only urethral or bladder irritation. It is necessary, however, to complete the study or major pathological changes may be overlooked in the upper tract. Several years ago, a patient with the history and findings of urethritis was found to have a tumor of the right kidney. For this reason, we try to make a complete urologic study, including pyelograms. In the 200 patients studied the diagnoses, based on pyelograms, include normal, 170 patients (85%); slight ureteral dilatation only, 6 (3%); slight pyelectasis, 6 (3%); normal ectopic kidney, 1 (0.5%); and congenital anomaly, but no disease, 4 (2%). No pyelograms were made of 13 patients (6.5%). In 6%, we have reports of normal pyelograms from the referring physicians.

TREATMENT

Treatment is basically simple but may be prolonged in some cases. The problem is to correct the stricture when found and to destroy infected tissue in the urethra and trigone. Thirty-three patients in this group had symptoms of acute cystitis that were controlled with antiseptics and antibiotics. In the remainder, medication, either oral or local, was of little value. Local treatment was needed to eliminate the urethral and trigonal disease.

Dilation of the urethral stricture to no. 30 French catheter was the only treatment given to 52 patients (26%). This was carried out at weekly intervals using Van Buren sounds for men. The dilatations are usually carried to no. 30 French catheter and rarely to no. 32 French catheter but never beyond. Reactions can occur after dilatation with acute cystitis and pyuria as seen in the male. Strictures vary considerably, in response to treatment; some dilate slowly and others very readily, the average requiring 10 dilatations. We prefer not to dilate any stricture forcibly, and we use local anesthesia to minimize trauma for the most sensitive patients. Once dilated, the stricture is checked every three months for a year to discover recontraction. It is dilated again if necessary.

In 13%, fulguration was the only treatment given; these patients had been dilated, when needed, by the referring physician. Using a Bugbee electrode through the Pan endoscope, the lightest possible fulgurating current was used to destroy granular and papillary areas in the urethral mucosa. About half the diseased tissue was destroyed at one time, the remainder six to eight weeks later. After using a very light current, we have not observed any harmful effects from fulguration. Any scarring that might have resulted was obscured by healthy mucosa seen after healing from fulguration. We had no increased difficulty with strictures after fulguration. Fulguration was never carried out in a urethra that was strictured or spastic. When needed, dilatations were always given first. In 60% of this group, treatment consisted of a combination of dilatations and fulguration as outlined above.

TABLE 2.—*Results of Urine Examination of 200 Patients with Urethritis or Trigonitis*

Urine	Cases No.	Cases %	
Normal	130	65	
Few pus cells	20	10	80% had no pus in kidney urines
Pus +	12	6	12% had a few pus cells in one or both kidney urines
Pus ++	8	4	
Pus +++	7	3.5	8% of specimens not examined
Pus ++++	14	7	
Gross hematuria	9	4.5	

In a small group, 16.5%, severe bladder symptoms resulted from pseudomembranous formation on the trigone, with advanced underlying trigonitis. Either urethral or cervical disease was present in all of these patients. Oral medication and instillations had no effect on this infection. Only by piecemeal fulguration of this entire pseudomembranous area were we able to relieve these patients, and then relief from symptoms was striking.

Five patients (2.5%) in the group had bladder neck obstruction requiring transurethral resection. Each patient had had symptoms for many years, with increasing difficulty in voiding. One patient had 1 oz. of residual and another 3 oz., while the others emptied the bladder completely. Four grams of tissue were removed in one patient; in the others the weight ranged from 2 to 3 gm. The operations were difficult, and the results were only fair. Three of the patients needed a periodic urethral dilatation in from one to three months. The five patients requiring resections in this series are typical for our experience over the past 15 years. Other forms of treatment included excision of a urethral cyst in two patients (1%) and destruction of Skene's gland in one (0.5%).

RESULTS OF TREATMENT

This group was treated in 1948 and 1949 allowing at least a three year follow-up for evaluation of results. Of the original 200 patients, 184 were contacted and gave the following report. 1. Bladder symptoms were relieved and have not required further treatment in 75%. 2. Treatment was stopped before discharge in 12%, and these patients had one or two recurrences. Further urethral dilatations relieved them, and they are satisfied to continue without further treatment. 3. Nocturia occurred one to three times in 6%, but these persons consider themselves free of "bladder trouble." 4. Partial relief was obtained in 4%, but treatment was discontinued because it was too painful or was followed by increase in bladder distress for 24 to 48 hours. These patients tolerate poorly any type of instrumentation. 5. Two per cent are still under treatment and require dilatation every one to three months. 6. Attacks of acute cystitis recurred in 1% in spite of our efforts to remove every known cause. The results were better than we expected. Of the entire group, 75% are completely relieved, and an additional 18% are comfortable and do not feel the need for further help. In 5%, the treatment failed to relieve the patient or could not be tolerated.

SUMMARY AND CONCLUSIONS

Symptoms of bladder irritation are very common in females, particularly in the middle years. The common complaints in these patients are urinary symptoms, referred pain in abdomen, back, and pelvic area, and nervousness. The common causes for these symptoms are urethral stricture, chronic urethritis, and chronic trigonitis. In 65% of the group studied, the urine examination was normal. Treatment should be simple and should be aimed at dilatation of the stricture and destruction of infected tissue in urethra and trigone.

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MANAGEMENT OF VESICOURETHRAL DYSFUNCTION IN WOMEN

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Dysfunction of urination in the female is so common that many women have remarked: "I thought it was normal for all women to have bladder trouble." Dysfunction of urination in the female differs from that in the male, in large measure because of the difference in fixation and support of the urethra. In the male the urethra remains in a stationary position attached more securely to the pubis anteriorly; a more complete urogenital diaphragm supports it inferiorly; and the vaginal cavity is absent postero-inferiorly.

The frequency of the occurrence of some form of female urinary disturbance in the office records of my private urologic practice has stimulated this report. Of the last 2,348 patients seen in the office, 1,000 were women, and 1,348 were men. Of these 1,000 women, 529 had some symptoms referable to dysfunction of the urethra or bladder as a primary complaint. Four hundred seventy presented other complaints not referable to the urethra or bladder as their primary reason for consultation.

Diagnoses in 529 Female Patients

Disease	No. of Patients
Urethritis	199
Acute	19
Granular	101
Chronic, with stricture	63
Chronic, with polypi	16
Urethral caruncle	43
Cystitis	289
Acute, simple	160
Follicular	8
Hemorrhagic	44
Chronic	59
Interstitial	18
Bladder neck contracture	18
Bladder tumor	17
Lower ureteral or bladder calculus	12
Pyuria, cause undetermined	9
Bacilluria, cause undetermined	6
Diverticulum of urethra	6
Stress incontinence	14
Vesicovaginal fistula	2

In addition to the conditions shown in the table, 59 women had cystocele, 46 had rectocele, 15 had urethrocele, 3 had multiple sclerosis, 21 had diabetes (previously undiscovered in 9), 1 had pernicious anemia, and 17 had endocervicitis. The following data were recorded concerning the marital status and sexual experiences of these patients.

Married	690	No sexual experience	186
Single	186	Sexual experience	814
Widowed	88		
Divorced	27	Never pregnant	39.8%
Separated	9	One or more pregnancies	60.2%

The management of vesicourethral dysfunction begins with an adequate history of the complaints. The history must include (in addition to the usual complaints of frequency, urgency, nocturia, dysuria, genital or low back area aching or pain, etc.) the occurrence of previous urinary disturbance, particularly during childhood, the history of abdominal and pelvic surgery, stress incontinence, and emotional or sexual maladjustments.

Examination of the patient with dysfunction commences by having the subject disrobed and placed in lithotomy position. No successful examination can be carried out with the patient in any other position. One should begin with the general physical examination, include a brief neurological examination, and conclude with the urologic survey.

The urologic examination includes the abdomen, kidneys, ureters, suprapubic area, and back and inspection and percussion of the renal areas. The external genitalia are inspected; the labia are spread wide, and the area is well lighted to observe vaginal discharge, Bartholin cysts, Skene's gland infection, caruncle, carcinoma, erosion or prolapse of the urethral meatus, estrogen deficient vaginitis, etc. The physician proceeds then to digital examination of the urethra, testing for induration, ten-

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derness, discharge, urethrocele, sacculation, estimation of the length of the urethra, and test of mobility of the urethra (sliding urethra). Bimanual examination of the trigone, bladder floor, lower portion of ureters, and pelvic organs follows. The genitalia are cleansed, and a small catheter is passed to obtain a sterile specimen for analysis, stain, and culture. The examination may conclude here, and in the majority of instances a diagnosis can be satisfactorily established and appropriate treatment recommended. The urologist may continue. Bladder inspection will be facilitated if the bladder is not drained of urine, providing the urine is not too cloudy for adequate inspection with a lens instrument. Intravesical inspection is followed by no discomfort if little or no irrigating fluid is added to the bladder. At the patient's second visit, residual urine should be measured. The urethra should be calibrated, and an instrument of suitable size with forward vision or an instrument with Foroblique vision, should be used to visualize the urethra and bladder. A right angle lens is of no value in the urethra but should be used in the bladder inspection. Anesthesia should not be used. Completion of the urologic study may be carried out with roentgenograms of the upper urinary tract, by retrograde or intravenous routes, and by other methods of special investigation not pertinent to the present consideration. With an accurate knowledge of the dysfunction, the urologist can proceed to correction. From statistical observation of the 529 female patients presently reviewed, the commonest urethral problem is chronic granular urethritis, of which there were 101 cases.

CHRONIC URETHRITIS

Chronic urethritis of the female simulates the chronic urethritis observed in the posterior urethra of the male, secondary to urethral stricture. Polyps may or may not be present and are of significance only in confirming the chronicity of the urethritis. From my observation, the condition is the result of urinary stasis that may have its origin from the urethral meatus to the vesical neck. It is my feeling that infection is not the intrinsic cause of this type of urethritis. The urine is frequently found to be clear on microscopic examination and negative in culture. Chronic urethritis is found in all age groups in which obstruction of the lower urinary tract is present. Hodges[1] has recently called attention to the prevalence of chronic urethritis in girls. Although he states that evidence of urethral obstruction was lacking in all but 1 of 25 girls, he does admit: "We are reluctantly forced to conclude that the reason for improvement in chronic urethritis in patients subjected to urethral dilations is not clear." It is a general conclusion by physicians who are familiar with chronic granular urethritis that the treatment of choice is repeated urethral dilatations. Except in the presence of infection, either local or systemic chemotherapy is not necessary. It is also common experience that the dilatation will last only a specific length of time for each person, and, when contraction has again taken place, relief of the recurring symptoms can be obtained by repeating the dilatation.

In the presence of a meatus stricture, caruncle, or other obstruction, the coexisting granular urethritis will not respond until adequate relief of this obstruction has been obtained. Likewise, the obstruction is not always intrinsic but may be the result of extrinsic obstruction, such as occurs in association with urethrocele or the sliding urethra, in which the angulation of concavity of the urethra is increased and the downward thrust action of the base of the bladder is lost. It is frequently observed that the patient with granular urethritis has little nocturia compared with the frequency present during the early morning hours after arising. Perhaps the exaggeration of symptoms results from urethral angulation when standing. Retention, it is felt, need be only that which is retained in the urethral canal, not a measurable quantity or sufficient to produce vesical alteration.

Urethritis should be treated by gradual urethral dilatation at one to two week intervals, which should be repeated until a normal caliber of 28 to 32 F. is maintained. The dilatation procedure is repeated every three to six months as a preventive measure. Meatotomy is necessary for all strictures failing to respond to dilatation. Faulty supports of the vesicourethral area are corrected either by pessary or by corrective surgery. The urethral and vesical plastic procedure must (1) immobilize the urethra, (2) lengthen the urethra, and (3) elevate and support the vesical floor if success is to be obtained.

URETHRAL CARUNCLE

Urethral caruncle, and obstructing, usually painful lesion, has been the basis of much speculation as to etiology and much divergence of opinion as to treatment. Palmer, Emmett, and McDonald[2] have presented a review of literature on this lesion and a study of 120 cases. Their conclusion is that the urethral caruncle represents a regional or a circumscribed urethral mucosal prolapse or both. The lesion may be easily overlooked. It may vary in size from a pinhead to a walnut, averaging the size of a small pea. It is usually single. The size and location of the lesion determine the treatment, but in any event it is directed toward palliative and symptomatic relief, since the tendency to recur is so high. (Two-thirds of the lesions recurred in the series of Palmer and co-workers.) The treatment may include locally administered caustics or local needle fulguration, radium or roentgen therapy, or radical excision by either sharp dissection or high-frequency-current cutting and coagulation.

CYSTITIS

In 289 of this series of 529 women, the working diagnosis was some form of cystitis. The simple, hemorrhagic, and follicular types usually have a sudden onset, with frequency, burning, bearing down pressure, stranguria, and pain in the genital region, lower abdomen, or sacral region. The etiology and diagnosis need not be reviewed at this time.

Management of acute cystitis is directed toward immediate relief of the painful symptoms. Nothing is superior to local application of heat, a bladder sedative such as Kerwin mixture, and chemotherapy with either a sulfonamide or an antibiotic.

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[1] Hodges, C. V.: Chronic Urethritis in Girls, J. A. M. A. 148:753-756 (June 21) 1952.

[2] Palmer, J. K.; Emmett, J. L., and McDonald, J. R.: Urethral Caruncle, Surg., Gynec. & Obst. 87:611-620 (Nov.) 1948.

CHRONIC CYSTITIS

The persistent or recurrently irritated vesical presents an entirely different problem from that of the acutely inflamed bladder. Chronic urethritis can be considered a symptom, giving evidence of some underlying anatomic or physiological dysfunction, except in those instances of specific infection such as tuberculosis, or syphilis. In the vast majority of patients, it was an associated finding that accompanied cystocele, urethrocele, vesical neck contracture, or urethritis. In some of the reported cases of pyuria and bacilluria of undetermined cause, chronic cystitis, with which no discoverable neurogenic or other urologic lesions occurred, was demonstrated cystoscopically. Three patients with multiple sclerosis presented evidence of chronic cystitis. Two of these patients complained of spontaneous uncontrollable bladder evacuations at unpredictable times. The other patient with multiple sclerosis was bedridden for three years, and vesical calculi finally developed after many months of chronic cystitis.

Chronic endocervicitis was the only discoverable cause for persistent bladder symptoms in 17 patients, and therefore it is listed as an associated finding that has definite relationship to vesical dysfunction. The treatment in these cases was, of course, directed toward the cervix rather than toward the bladder.

According to the statistics from this study an unusually large number of patients with interstitial cystitis have been encountered. In each, the cystitis has been confirmed by cystoscopic observation and bladder capacity measure. Tracy Powell's [3] deductions regarding the relation of the lymphatic system of the bladder to that of the lower abdominal and pelvic organs in the female seem the most logical explanation for the development of Hunner ulcers. In spite of my failure to gather accurate data on the association of previous pelvic disease and surgical procedures, I am firmly convinced that more than a majority of the patients in this study have had extensive pelvic surgery before the development of vesical symptoms.

The treatment of chronic cystitis is directed toward correction of the underlying cause. Urinary sedatives, hot douches, and weeks and months of therapy with sulfonamides or expensive antibiotics are deplored. The lithotomy position for thorough examination is most imperative. Gynecologic and urologic consultation are most valuable, for no patient is more grateful or more loyal than the woman relieved of the nagging discomforts of an irritable, irritating bladder. The management of Hunner ulcer is unsatisfactory at present; however, there is hope that from future studies improved methods of providing lymphatic circulation in the bladder wall will provide a method of alleviating this distressing condition.

BLADDER NECK CONTRACTURE

With the McCarthy panendoscope, the Lowsley-Peterson endoscope, or a similar instrument, a circular ring of contraction is evident at the internal urethral orifice. This contracture ring in the female resembles that seen in the male except that it is more symmetrical and there is less likelihood of a disproportioned hypertrophy of the posterior commissure. The contracture ring is fibroelastic and dilates easily only to quickly resume its contracted state again. The trigone seems to fall away at the vesical neck, and to visualize it one must elevate the eye piece of the telescope to an almost vertical position, even in the absence of a cystocele. The bladder reveals trabeculation and frequently cellule formation. A chronic cystitis, often manifested by bacilluria, is observed. This condition has been encountered 18 times in the present series.

Palliative relief for vesical neck contracture can be obtained by wide dilatation of the urethra with the assistance of local anesthesia. The dilatation must be maintained by frequently repeated treatments. More satisfactory results can be obtained by transurethral resection of the vesical neck, in which the entire circumference of the vesical neck is removed. Follow-up dilatation of the vesical neck is imperative to prevent secondary fibrous contracture. No remarks will be included here regarding the management of bladder tumors and vesical calculi, which also produce vesical dysfunction.

DIVERTICULUM

I again [4] wish to urge that examination of the urethra include stripping of the urethra and visual search for the frequently overlooked diverticulum. This sacculation deserves more attention than it has previously received. Visualization of the orifice may be difficult, but, if the outline of examination previously described is adhered to, the diverticulum can be felt and the contents visualized as it is stripped from the urethra.

The preferred treatment of urethral diverticulum is surgical eradication of the sac. Small sacculations may be destroyed transurethrally, but, if their capacity is greater than 2 cc., they should be removed transvaginally. Incision and drainage have been used on one patient in the group of six. Excision through the vagina was accomplished in three; one was not treated, and the other has been maintained with minimal symptoms by having the patient strip her urethra after each voiding.

ANATOMY AND PHYSIOLOGY

So that one may understand the various dysfunctions of micturition in the female, a clear understanding of its mechanism must be borne in mind. These mechanisms may be studied by both cystourethroscopic and roentgenologic means. Nordenstrom,[5] Hinman,[6] and Briney and Hodes [7] have studied the shape, course, and activity of the female urethra and bladder, both in normal subjects and in subjects with stress incontinence. The urethra of an adult woman is a curved tube about 4 cm. long, embedded in the anterior vaginal wall with its direction downward and forward and its slight concavity directed forward, following to some degree the contour of the inferior and posterior surfaces of the pubis symphysis. When the urethra is dilated, its diameter is about 6 mm., but the canal is capable of distending to 10 or 11 mm. The distal two-thirds of the urethra is outlined by stratified squamous-type mucosa that is continuous with the lining of the introitus. The internal one-third is lined with transitional cells continuous with the trigone. The canal in the relaxed state is pleated with longitudinal ridges that tend to gather at the external orifice and spread out onto the trigone at the inner orifice. The mucosa is a pale reddish color and is liberally supplied with shallow coursing vessels similar to those observed on the trigone. In the loose submucosa is a vascular bed simulating erectile tissue. The lymphatics are large, spacious, and drain into the inguinal and pelvic nodes. An especially rich nerve supply is derived from the hypogastric plexus of the sympathetics and from the sacropudendal plexus.

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[3] Powell, T. O.: Hunner Ulcer: Report of Cases, West. J. Surg. 58: 118-129 (March) 1950.

[4] Carson, R. B., and Wells, W. D.: Treatment of Female Urethral Diverticula, South. M. J. 44: 285-290 (April) 1951.

[5] Nordenstrom, B. E. W.: Some Observations on Shape and Course of Female Urethra During Miction, Acta radiol. 38: 125-132 (Aug.) 1952.

[6] Exhibit, annual meeting of American Urological Association, St. Louis, May 11-14, 1953.

[7] Briney, A. K., and Hodes, P. J.: Urinary Incontinence in Women: Roentgen Manifestations, Radiology 58: 109-112 (Jan.) 1952.

On urethroscopic examination the meatus is entered through a slit or inverted V-like opening. The appearance of the meatus resembles the introitus mucosa except for the observed openings of large and small periurethral glands and the longitudinal folds. On distending the meatus with irrigating fluid one sees the folds flatten out, and immediately observes a shallow cavity resembling the fossa navicularis of the male. Proximal to this is a slightly concave straight-walled canal of about 1 to 1½ cm. in length. The canal then enlarges in its midportion until the mucosa again is puckered by the contracted voluntary compressor or sphincter urogenitalis. Proximal still, the urethroscopic appearance resembles the prostatic urethra from verumontanum to vesical neck in a funnel shape. The lining mucosa changes to a more glistening smooth-surfaced vascular membrane that gradually spreads out onto the trigone, in the relaxed state, or maintains a rounded canal form as far as the fairly sharply demarcated vesical neck, if voiding is actively inhibited.

The trigone and the urethra are continuous in appearance cystoscopically. The trigone angles posteriorly about 30 degrees and is outlined by the ureteric ridges on either side and the dip of the bas-fond posteriorly. Its surface is smooth, glistening, and an abundance of superficially coursing vessels are observed. In contrast, the bladder, when it is not distended, is thrown into rugae-like folds, is of paler (yellowish) color, and is of less vascular appearance. On filling, the bladder walls are also smooth. The angle of junction of the lateral and anterior walls of the bladder with the urethra is approximately 60 to 75 degrees when it is filled to normal capacity. These anatomic observations bear definite significance when one is studying a bladder for its dysfunction. Observation of the urethra during the act of urination demonstrates the descent of the base of the bladder and a funnel formation of the internal one-third of the urethra. At the same time there is relaxation of the compressor sphincter urethrae and a straightening of the canal.

The downward thrust of the base of the bladder is followed by contraction of the lateral walls and the dome so that the contraction of the dome directs the force downward toward the vesical outlet. If there is insufficient fixation of the urethra and/or the floor of the bladder, a "sliding urethra" results and the urethra and bladder appear to crawl out from beneath the pubis symphysis. The result is an increase in the concavity of the urethra and an increase in the urethrotrigonal angle. The expulsive force is directed through the trigone toward the anterior vaginal wall. Retention of urine results. The female lacks the strong ejaculatory action of the male that assists in the complete evacuation of the urethra and bladder. If there is vesical outlet obstruction and weakness of contraction of the detrusor at the dome, the contraction will result in an upward expulsion force and the effect of voiding into the dome occurs. Here, too, urinary retention is the result, and it is in these persons that a second, but smaller, voiding often takes place. In neither instance is there a herniation of the bladder or urethra (cystocele or urethrocele), but the extrinsic obstruction is just as effective in producing dysfunction as an intrinsic obstruction would be.

SUMMARY

A review of the reasons for consultation of the last 1,000 female patients seen in private urologic practice is presented. Of these patients, 52.9% were found to have lower genitourinary tract dysfunction as the primary pathological process. An explanation is offered for the frequent occurrence of chronic urethritis, called sliding urethra in this study. The management of some types of urethral and bladder dysfunction is outlined.

403 Sweet Bldg.

Use of Iron Medication.—It has been emphasized repeatedly in recent years that (1) iron can be expected to give satisfactory results only when administered to patients with an iron deficiency, which is almost always due to chronic hemorrhage, and (2) the dosage of the metal must be adequate. For a number of years I have attained entirely satisfactory results by giving enteric-coated ferrous sulfate tablets, 0.3 gm. (5 gr.), three times a day before meals. If the desired effect does not occur within two weeks, the dosage is doubled. I have not observed that the addition of anything else, including copper, vitamins, etc., has ever enhanced the effect of iron alone when given in the proper dosage.

We now have a preparation of iron which can be given intravenously. It is the saccharated oxide of iron. Let me emphasize, however, that I advise the oral administration of iron in all instances in which this is possible. Occasionally, however, a patient who cannot tolerate oral iron because it upsets the gastrointestinal tract can be treated successfully with saccharated oxide of iron. A 5 cc. ampule contains 100 mg., and we give 50 mg. (2.5 cc.) the first day slowly intravenously, then 100 mg. in a 5 cc. volume every day thereafter until the total calculated dose is injected. One hundred milligrams of saccharated oxide of iron will raise the hemoglobin in an average adult about 4 per cent. Therefore, if a 40 per cent deficit is present in the hemoglobin of the circulating blood you would give a total dosage of 50 cc. or 1,000 mg. of saccharated oxide of iron over a period of 10 to 14 days in order to bring the hemoglobin to 100 per cent.

This preparation of iron is also useful occasionally in the last trimester of pregnancy when the patient finds it difficult to take the medication by mouth. Parenteral iron is not ordinarily indicated, but when needed it can be given without difficulty if it is injected slowly.—Cyrus C. Sturgis, M.D., Use of Iron Medication, *Postgraduate Medicine*, September, 1953.

ADVANTAGES AND COMPLICATIONS OF TRACHEOTOMY

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and
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The possibility of relieving upper respiratory obstruction by a tracheotomy was first discussed by Asclepiades in 124 B.C., but the first authentic operation was probably performed by Brassavola in 1546.[1] Until the middle of the 19th century, it was considered a hazardous procedure and was rarely performed. Even after this time it was still regarded as a last resort for such dire emergencies as might arise in membranous diphtheria, neoplasms of the upper respiratory tract, and, occasionally, injuries of the pharynx, larynx, and trachea. During the last 10 years the operation has been performed more frequently, but still usually as an emergency procedure, and the newer concept of an elective operation has been accepted with reluctance in many quarters. Anesthesiologists have come to recommend this operation more as a prophylactic measure than as an emergency treatment, not only because an airway is assured but, perhaps even more specifically, because it provides an easy route to the lower respiratory tract for aspiration of secretions.

In addition to relieving respiratory obstruction, the value of tracheotomy has recently become apparent in the following conditions: (1) weakness of the respiratory muscles, causing difficulty in removal of secretions by coughing; (2) loss of voluntary control of the airway; and (3) unconsciousness, with an absent or weak cough reflex leading to subsequent atelectasis and pneumonia. We are not alone in having stressed the value of tracheotomy in head injuries[2] and bulbospinal poliomyelitis.[3] We have also advocated its use in various conditions, including certain other diseases of the central nervous system, barbiturate intoxication, acute laryngotracheobronchitis, trauma, and neoplasms affecting the upper respiratory passages.

The fear of disfiguring cosmetic results is uppermost in the minds of many persons. Paradoxically, this objection is rarely listed in the medical literature, perhaps because those who raise the objection realize that a scar is a small price to pay for averting certain death. Other complications, both immediate and postoperative, must be considered as calculated risks.

Severe hemorrhage, technical difficulty with the surgical procedure, pneumothorax, mediastinal emphysema, laceration of the esophagus, massive aspiration of blood, prolonged apnea on the relief of obstruction, and even death have been reported as immediate operative complications. Some of these may be seen during the postoperative period also, but it is often difficult to establish whether they were initiated before or during the operation. In addition, however, the following factors must be listed: secondary hemorrhage, tracheobronchitis, atelectasis, pneumonia, subcutaneous emphysema, obstruction of the tracheal cannula, incorrect size of cannula, glottic stenosis, infection of the wound, hoarseness, and difficulty in extubation.

PRESENT STUDY

In view of this formidable list of complications and hesitancy on the part of some surgeons to perform elective tracheotomy, we thought it wise to study the direct complications and effects of the operation before further encouraging its use in the management of patients with airway problems. We have therefore investigated the records of 155 consecutive tracheotomies performed on 151 patients during the five year period 1948 to 1952 at the University and City hospitals of Cleveland. In this period chemotherapy and the use of antibiotic drugs were well established and minimized at least one source of possible complications. This factor is common to all our cases, and no attempt has been made to compare them with others performed prior to the advent of modern drug therapy.

About half of our tracheotomies were performed in 1952, and we have had personal experience in the management of most of these. For purposes of comparison and evaluation, the series has been divided into six groups according to the disease from which the patient was suffering (table 1).

COSMETIC RESULTS

The cosmetic results could be evaluated in only 56 of the 155 tracheotomies performed. In the remainder, some patients had permanent tracheostomies, some died, and the rest could not be traced or their records were not sufficiently complete to give an adequate evaluation (table 2).

It is encouraging that 84% of those patients who could be checked had good cosmetic results. Of those results classified as poor some might be described more accurately as fair, and included minor keloid formation. A survey of the literature has revealed nothing on this aspect of tracheotomy—except in the case of permanent stomas following total laryngectomy[4]—and therefore we have included our small series. We believe that if such a high proportion have a good cosmetic result, the patient and surgeon alike may gain confidence from this knowledge.

Primary healing is to be expected regardless of how long the tracheotomy tube is left in place. Tracheostomies have been reported that have tended to close spontaneously after 70 years.

Read before the Section on Anesthesiology at the 102nd Annual Meeting of the American Medical Association, New York, June 4, 1953.

From the Department of Anesthesiology, University Hospitals (Dr. Davis and Dr. Bryce-Smith) and Cleveland City Hospital (Dr. Kretchmer) of Western Reserve University.

[1] Guthrie, D.: Early Records of Tracheotomy, Bull. Hist. Med. **15**: 59-64 (Jan.) 1944.

[2] Bryce-Smith, R.: The Management of Head Injuries from the Anaesthetist's Point of View, Brit. M. J. **2**: 322-324 (Aug.) 1950.

[3] Davis, H. S., and Bishop, H. F.: Airway Management in Patients with Poliomyelitis: Elective Tracheotomy and Tracheal Intubation, J. A. M. A. **149**: 1175-1180 (July 26) 1952.

[4] Steinmann, E. P.: What Can We Do for Our Tracheotomized Patients, Laryngoscope **57**: 90-94 (Jan.) 1947.

COMPLICATIONS

Operative Complications.—The operative complications that we encountered in this series are listed in table 3. It is likely that a certain number of complications were not recorded, because they either were not recognized or were of a minor character. The most important hazard met during operation was hemorrhage, which was frequently associated with operative difficulties. To this must be related the skill of the surgeon and the circumstances under which the operation was performed. As might be expected, more complications occurred when the operation was performed as an emergency. In 89 emergency tracheotomies, complications occurred in 26, an incidence of 29.2%. In 66 elective operations, complications occurred in 9, an incidence of 13.7%.

TABLE 1.—*Total Series Divided into Groups According to the Primary Condition*

	1948	1949	1950	1951	1952	Total
Poliomyelitis	0	0	7	5	39	51
Neoplasms	2	11	7	6	9	35
Laryngotracheitis	5	8	1	1	7	22
Miscellaneous	2	1	0	10	6	19
Central nervous system disease	0	0	2	6	11	19
Central nervous system injury	0	0	0	3	6	9
Total	9	20	17	31	78	155

TABLE 2.—*Cosmetic Results of Tracheotomy*

Good	47 (84%)	
Poor	9 (16%)	
Total	56	
Permanent tracheostomies	14	Not Included
Died	65	
Not known	20	
Total	99	

Many factors influenced these figures, including the condition of the patient, the availability of a competent surgeon, the presence of an anesthesiologist or other person capable of maintaining the airway of the patient during the operation, adequate assistance, and operating room facilities. These findings suggest that a tracheotomy should be performed whenever possible as an elective operation under optimum conditions. The few unnecessary tracheotomies resulting from such a philosophy will cause little harm and the results will justify the risk. In retrospect, we are of the opinion that at least 17 of the emergency operations could or should have been performed electively.

Provided an airway is assured before operation, the choice of anesthetic, either local or general, is of secondary importance in most cases. Such an airway may be established by the passage of a bronchoscope or endotracheal tube with the patient under topical anesthesia or without any anesthesia at all in extreme cases. General anesthesia must be forbidden unless the airway can be guaranteed, by intubation if necessary. The importance of this is emphasized by the four deaths that occurred in our series owing to asphyxia due to obstruction unrelieved before the emergency operation was begun. Following intubation, the anesthesiologist can assist the surgeon by correctly positioning the head and by manipulating the endotracheal tube or bronchoscope to assure the airway during the critical time when the cannula is being inserted. In children it is often difficult to recognize structures, and a lighted bronchoscope can indicate the point at which the trachea should be entered.

Proper placing of the tracheal incision may prevent certain postoperative difficulties, for example, in patients who are to be nursed in a tank respirator. The following case is illustrative.

REPORT OF A CASE

A man, aged 28, was suffering from the progressive paralysis of bulbospinal poliomyelitis. He was having difficulty in clearing his airway of secretions, and intercostal weakness made use of the respirator necessary. It was decided to perform a tracheotomy. He was intubated under topical anesthesia, and the operation was carried out with local anesthesia by infiltration. The surgeon, however, miscalculated the point of incision into the trachea and, while thinking he was entering the second and third rings, actually incised the seventh and eighth. On the patient's return to a respirator, it was found almost impossible to adjust the rubber collar in such a way that the tracheotomy opening would lie clear. The makeshift arrangement that became necessary did not give an air-tight fit and increased the nursing problems.

In general, the tracheotomy opening should be as high as possible without risking damage to the cricoid, the usual cause of glottic stenosis.[5] The reverse is probably true in patients suffering from neoplasms of the upper respiratory tract.[6] A previous tracheotomy is not a contraindication to a second. Five of our patients had repeated operations without any difficulty.

Postoperative Complications.—The presence of a foreign body in the trachea, i. e., the cannula, necessarily causes a mild tracheitis and stimulates an increase in secretions. These reactions must be expected but, since they are temporary and do not influence the clinical course significantly, have been omitted from table 4.

Atelectasis, bronchopneumonia, and tracheobronchitis head the list of postoperative complications, but it was known that these conditions existed preoperatively in many cases, a point well recognized in the literature.[7] It was surprising to see how infrequently mediastinal emphysema and pneumothorax occurred, although both have received the greatest prominence in reports. The disparity is difficult to explain but since routine postoperative chest roentgenograms were not made, a number of cases must have been unrecognized.

TABLE 3.—*Operative Complications of Tracheotomy*

Complication	No. of Patients
Hemorrhage	9
Operative problems	9
Too low	4
Death	4
Pneumothorax	3
Mediastinal emphysema	2
Apnea	1
Aspiration	1
Lacerated trachea	1
Lacerated esophagus	1
Total	35

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[5] Cawthorne, T.: Tracheotomy, Surg., Gynec. & Obst. **68**: 782-788 (April) 1939. Kernan, J. D.: Injuries of Larynx; Traumatic and Therapeutic, Laryngoscope **51**: 292-295 (March) 1941.

[6] Figi, F. A.: Tracheotomy: Study of 206 Consecutive Operations, Ann. Otol. Rhin. & Laryng. **43**: 178-192 (March) 1934.

[7] Fitz-Hugh, G. S.: Tracheotomy: Study of 100 Consecutive Cases, South. M. J. **34**: 1116-1121 (Nov.) 1941.

The mechanisms concerned with the production of mediastinal emphysema and pneumothorax have been investigated by numerous authorities. Since frequent trauma to the domes of the pleura is improbable, only two explanations seem likely. One suggestion is that, as the pretracheal fascia is incised, a potential space is opened through which air is drawn into the mediastinum by the high negative intrathoracic pressure occurring with excessive inspiratory efforts. This later ruptures through the pleura to produce a pneumothorax.[8] The second theory implies a rising alveolar pressure secondary to obstruction, with a series of minute ruptures that allow air to pass interstitially at first, then into the mediastinum, and finally into the pleural cavity.[9] In both cases, abnormal pressures are required, such as are found in the presence of severe upper respiratory obstruction. Since one-third of our patients were suffering from poliomyelitis and therefore were incapable of excessive muscular effort, a possible explanation is offered for the few pneumothoraces seen in our series. It is interesting to speculate whether the pressures produced by a tank respirator are sufficient to produce the necessary trauma to the lungs, even in the presence of extreme respiratory obstruction.

TABLE 4.—*Postoperative Complications*

Complication	No. of Patients
Atelectasis-pneumonia	37
Tracheobronchitis	17
Obstructed tube	11
Incorrect tube	8
Difficult extubation	8
Wound infection	8
Mediastinal emphysema	6
Subcutaneous emphysema	5
Pneumothorax	5
Hemorrhage	4
Apnea	3
Pulmonary embolus	2
Glottic stenosis	2
Dysphonia	2
Pneumoperitoneum	1
Dysphagia	1
Total	120

Postoperative hemorrhage may be secondary to infection or failure to establish efficient hemostasis, and the proximity of so many large vessels makes this complication a very real danger. Mechanical erosion of the trachea by the cannula may cause bleeding. Such cases have been reported,[10] and we encountered one in our series.

Although infection of the wound is infrequent and relatively unimportant, such problems as obstruction of the cannula by secretions, blood, and vomitus are serious and can be prevented only by good nursing.

Apnea after relief of obstruction is probably due to sudden lowering of arterial carbon dioxide so that the respiratory center, whose threshold has been elevated, is no longer stimulated. It has also been suggested that the result of an alkali reserve determination in itself may give an indication for performing a tracheotomy in long-standing respiratory obstruction.[11]

COMMENT

From the lists of operative and postoperative complications in the preceding tables, it would appear at first sight that 155 occurred in 155 tracheotomies. This is misleading, since any mishap that occurred, whether or not it was related to the operation, was recorded. Also, there were many instances of multiple complications in the same patient. Table 5, which indicates the number of tracheotomies associated with major and minor complications, is a more accurate representation of the results.

Gross hemorrhage, pneumothorax, and mediastinal emphysema are examples of what were considered major complications; wound infection, slight hemorrhage, and subcutaneous emphysema were considered minor complications. It will be noted that major complications in the emergency group occurred almost twice as frequently as in the elective group. Most of the deaths in the series were not attributable to the tracheotomy, but to the underlying condition. Six deaths were, however, closely related to the operation. Four of these occurred during the procedure and have been mentioned previously; both of the others were due to difficulty in extubation and occurred in the late postoperative period.

TABLE 5.—*Number of Tracheotomies with Complications*

	Elective	Emergency	Total
Operations	66	89	155
Major complications	6 (9%)	14 (16%)	20 (13%)
Minor complications	18	16	34

SPECIAL GROUPS

Patients with laryngotracheitis and poliomyelitis, in addition to providing about half of our series, were the only two groups that could be classified by discrete clinical entities.

Laryngotracheitis.—Most patients with laryngotracheitis are not admitted to the hospital until they are in severe distress, and it is not surprising that all the tracheotomies in this group were performed as emergencies. Even hospitalized patients may deteriorate so rapidly that there can be no choice, but if elective operation is possible, then the criteria of Briggs and Heseltine[12] should be followed; the indications are (1) cyanosis, (2) restlessness, and (3) progressive fatigue. The last indication is frequently not appreciated but is as real as the others, and is applicable not only to laryngotracheitis but to any other condition involving respiratory obstruction or accumulated secretions.

Poliomyelitis.—In the poliomyelitis group, no tracheotomies were performed before 1949, but thereafter they were performed with increasing frequency, with a swing from emergency to elective operations (table 6).

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[8] Goldberg, J. D.; Mitchell, N., and Angrist, A.: Mediastinal Emphysema and Pneumothorax Following Tracheotomy for Croup, Am. J. Surg. **56**: 448-454 (May) 1942. Forbes, G. B., and Salmon, G. W.: Mediastinal Emphysema and Pneumothorax Following Tracheotomy: Report of 4 Cases, J. Pediat. **23**: 175-183 (Aug.) 1943. Thomas, A., and Holland, N. W.: Tracheotomy with Complications of Pneumothorax, New Orleans M. & S. J. **100**: 565-567 (June) 1948.

[9] Macklin, C. C.: Pneumothorax with Massive Collapse from Experimental Local Over-Inflation of Lung Substance, Canad. M. A. J. **36**: 414-420 (April) 1937. Barrie, H. J.: Interstitial Emphysema and Pneumothorax After Operations on Neck, Lancet **1**: 996-998 (June 1) 1940. Evans, J. A., and Smalldon, T. R.: Mediastinal Emphysema, Am. J. Roentgenol. **64**: 375-390 (Sept.) 1950.

[10] Schlaepfer, K.: Fatal Hemorrhage Following Tracheotomy for Laryngeal Diphtheria, J. A. M. A. **82**: 1581-1583 (May 17) 1924.

[11] Negus, V. E.: Explanation of Respiratory Failure Sometimes Occurring After Successful Tracheotomy, Ann. Otol. Rhin. & Laryng. **47**: 608-614 (Sept.) 1938.

[12] Briggs, J. N., and Heseltine, J. R.: Tracheotomy in Acute Obliterative Laryngotracheobronchitis, Brit. M. J. **2**: 1064-1067 (Nov. 15) 1952.

The decision to perform an elective tracheotomy depends on the site and progression of paralysis. Severe bulbar involvement is now well established as an indication for the operation, but a rapidly falling vital capacity is in itself a good indication.[13] Although at first sight this suggests merely intercostal weakness, it also implies an ineffective cough and, therefore, an inability to remove secretions in a patient who will probably need respirator care. Further, we are coming to believe that any patient who is desperately ill and must be nursed in the respirator should receive a tracheotomy, even though other specific indications are absent.

TABLE 6.—*Number of Tracheotomies in Cases of Poliomyelitis*

	1948	1949	1950	1951	1952	Total
Admissions	198	468	411	148	766	1,994
Total tracheotomies...	—	—	7 (1.7%)	5 (3.4%)	39 (5.1%)	51 (2.6%)
Emergency tracheotomies	—	—	(7) (100%)	(3) (60%)	(9) (23%)	(19) (1%)
Elective tracheotomies	—	—	—	(2) (40%)	(30) (77%)	(32) (1.6%)

SUMMARY

A total of 155 tracheotomies were studied to determine the incidence and severity of complications during and following the procedure. Although a total of 155 related complications were encountered, these occurred in 54 tracheotomies. In these 54 tracheotomies, major complications were seen in 20, 14 of which were emergencies. Elective tracheotomy, after the provision of an airway, reduces the number of serious complications and is to be preferred to emergency operation whenever possible. The high incidence of complications must be considered in relation to the gravity of the patient's condition, with asphyxia and probably death as an alternative. The cosmetic results were generally good and should never influence the decision to perform the operation. Tracheotomies should be recommended whenever the patient's ability to maintain an airway or remove secretions is seriously impaired.

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[13] McDowell, F., and Wolff, H. G.: Early Tracheotomy in Anterior Poliomyelitis: Importance of Vital Capacity Determinations, J. A. M. A. **151**: 1160-1163 (April 4) 1953.

ROLE OF ANTICHOLINERGIC DRUGS IN TREATMENT OF PEPTIC ULCER

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The anticholinergic drugs are compounds that have been introduced recently into clinical medicine. As with other new agents that have been employed in the past in the treatment of peptic ulcer, the initial reports of the value of these drugs were glowing with enthusiasm. It was stated that one of these compounds, methantheline (Banthine), was so effective as the sole treatment of ulcer that conventional medical management was no longer necessary, that recurrences could be prevented, and that the need for surgery was obviated.[1] Many of these studies, however, were not controlled, and it is difficult to determine whether the beneficial effects attributed to the drug were actually produced by it. Recent investigations, more critically conducted, have failed to confirm some of the original observations, and, as a result, considerable confusion exists in the profession as to the exact value of these agents. The purpose of this paper is to summarize present-day knowledge in an effort to clarify the role of the anticholinergic drugs in the treatment of peptic ulcer.

PHARMACOLOGY

The cholinergic blocking agents currently available include methantheline (Banthine), diphenmethanil (Prantal), oxyphenonium bromide (Antrenyl), and propantheline bromide (ProBanthine). A large number of similar compounds are under investigation at the present time. It is beyond the scope of this paper to attempt a comparative evaluation of these compounds.

These drugs interfere with the cholinergic transmission of nerve impulses and differ from the atropine group in that they are effective not only at the effector site but also at the parasympathetic ganglions. This blockade of parasympathetic impulses results in a so-called "medical vagotomy" with inhibition of both secretory and motor activity of the stomach. In addition to these effects, Wolf has observed a decrease in engorgement of the gastric mucous membrane after their administration.[2] In higher dosage, there is some evidence of sympathetic ganglionic block of motor nerves and a curare-like action.

Adverse side-effects include atropine-like visual and salivary disturbances, tachycardia, difficulty in urination, abdominal distention, constipation and an ill-defined feeling of lassitude or fatigue. Dermatitis and stomatitis occasionally follow their administration.

EFFECT ON GASTRIC SECRETION

It is generally agreed that the anticholinergic drugs inhibit gastric secretory activity with a reduction in both

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The ProBanthine used in this study was supplied by G. D. Searle & Co., Chicago.

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[1] Grimson, K. S.; Lyons, C. K., and Reeves, R. J.: Clinical Trial of Banthine in 100 Patients with Peptic Ulcer, J. A. M. A. **143**: 873 (July 8) 1950. Grimson, K. S.: A Clinical Trial of Banthine in Cases of Peptic Ulcer, Gastroenterology **14**: 583 (April) 1950.

[2] Abbott, F. K.; Mack, M., and Wolf, S.: The Action of Banthine on the Stomach and Duodenum of Man with Observations on the Effect of Placebo, Gastroenterology **20**: 249 (Feb.) 1952.

volume and acidity.[3] The response following oral administration in each patient is both variable and unpredictable, and anacidity is not often attained with currently available drugs unless high doses are employed. After parenteral administration, anacidity occurs more frequently. Unlike vagotomy, these drugs have little effect on the cephalic phase of gastric secretion.[4] The duration of the antisecretory effect of these drugs is likewise variable, lasting from 30 minutes to several hours. Potent antisecretory activity usually is accompanied by profound side-effects. There is no convincing evidence of cumulative action or of the development of tolerance after prolonged administration.

EFFECT ON GASTROINTESTINAL MOTILITY

The effect on gastrointestinal motor activity is generally more pronounced and less variable than on secretion.[5] In the normal person there is no demonstrable effect on the motility of the esophagus as determined by roentgenography; however, balloon studies [6] have demonstrated a reduction in spontaneous motility of the esophagus after methantheline is given intravenously. This agent does not relax the cardiac sphincter or accelerate the passage of barium into the stomach. Administration of these drugs to patients with cardiospasm aggravates the condition, as does vagotomy.[7] Gastric motor activity is greatly altered after parenteral administration; there is marked delay in emptying and cessation of peristalsis for a variable period of time. Propulsive and segmental activity of the small bowel usually is abolished. The results of oral administration are less striking. There is no significant effect of these drugs on the motor activity of the colon as observed by roentgenography, although balloon studies have demonstrated some reduction in peristalsis.[8]

USE IN PEPTIC ULCER

Active Phase.—These drugs, in conjunction with conventional ulcer therapy, are highly effective in many ambulatory patients with an active ulcer. Their administration is usually followed by prompt relief of ulcer distress. The following case report illustrates the effectiveness of the anticholinergic drugs when given orally.

A 59-year-old Negro man gave a history of typical intermittent ulcer pain for 10 years. Despite strict dietary therapy antacids, sedation, and belladonna, his pain continued an radiated to the back. Roentgenograms revealed a marke deformity of the duodenal bulb, with a crater in the posterio wall. Hospitalization was not possible, and the patient wa given propantheline, 30 mg. orally, before meals and at bec time in addition to conventional therapy. One week later h was symptom-free, and during the ensuing six months he ha no recurrence of ulcer distress.

A number of patients, however, are not relieved o their pain in spite of increased oral dosage, and hospita ization is required. In such cases, parenteral administra tion of anticholinergic agents frequently is followed b prompt relief of ulcer distress. Pain can be relieved ofte within a few minutes by injecting them intramuscularl and almost instantly by giving them intravenousl Furthermore, recurrence of pain frequently is prevente by intramuscular injection every six hours over a perio of several days. The next case report is typical of th response to anticholinergic drugs given parenterall when oral administration is ineffective.

A 19-year-old white boy gave a history of recurrent attack of ulcer distress for the preceding five years. A roentgenogra revealed a marked deformity of the duodenal bulb, with suspicious crater. Hospitalization was not possible; therefore a strict diet, antacids, sedation, and bed rest were prescribed In addition, propantheline, 30 mg., was given orally befor meals and at bedtime. One week later, the patient was stil complaining of severe epigastric pain with radiation to th back. Two or three minutes after intravenous injection o 20 mg. of propantheline, the patient's pain was completel relieved and did not recur during the succeeding period o hospitalization while he was receiving propantheline, 20 m intramuscularly, every six hours.

A small number of patients fail to respond to conventional therapy supplemented by either oral or parentera administration of anticholinergic drugs. Usually suc patients have a perforated walled-off ulcer, and prolonge conservative management is of little value. Once th diagnosis of walled-off perforation has been made, subtotal resection should be performed without delay. Th failure of these drugs in a patient having a walled-o perforation is illustrated by the next case report.

A 53-year-old white woman gave a history of recurren attacks of ulcer pain for 12 years. Perforations occurred i 1944, 1945, and 1946. A gastroenterostomy was performe in 1945 and a subtotal gastric resection in 1946. Epigastri pain recurred despite a transthoracic vagotomy in 1947. A marginal ulcer was demonstrated on repeated occasions. I 1953, the patient again was hospitalized because of a sever recurrence that did not respond to conventional therapy. Anticholinergic drugs were given parenterally over a period o several days with little effect. At operation a marginal ulcer with a walled-off perforation adherent to the anterior abdominal wall, was found.

Quiescent or Interim Phase.—The role of these drug in the long-term management of ulcer is still controversial. Only a few carefully controlled studies of thei effect on the course of the disease have been carried out. In order to determine what effect one of these agent might have on the incidence of recurrences and on th development of complications, a controlled clinica study, in which neither physician nor patient knew th identity of the drug prescribed, was undertaken recently.[10] One hundred milligrams of methantheline o 0.4 mg. of atropine were given four times daily to alternate patients as adjuncts to conventional therapy. Two hundred fifty patients were followed for a mean period of 13 months.

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[3] Benjamin, F. B.; Rosiere, C. E., and Grossman, M. I.: A Comparison of the Effectiveness of Banthine and Atropine in Depressing Gastric Acid Secretion in Man and the Dog, Gastroenterology **15**: 727 (Aug.) 1950. Texter, E. C., Jr.; Baylin, G. J.; Legerton, C. W., Jr., and Ruffin, J. M.: Effects of a New Cholinergic Blocking Agent (SKF-1637) on Gastric Motor and Secretory Activity, Am. J. M. Sc. **224**: 612 (Dec.) 1952. Kirsner, J. B., and Palmer, W. L.: Newer Gastric Antisecretory Compounds, J. A. M. A. **151**: 798 (March 7) 1953

[4] Plummer, K.; Burke, J. O., and Bradford, S. C.: The Effect of Methantheline Bromide (Banthine) on the Insulin Induced Secretion of Gastric Acid, Mucoproteose and Mucoprotein: Physiologic Implications, Gastroenterology **18**: 218 (June) 1951. Smith, C. A.; Woodward, E. R.; James, C. W., and Dragstedt, L. R.: The Effect of Banthine on Gastric Secretion in Man and Experimental Animals, ibid. **15**: 718 (Aug.) 1950.

[5] Lepore, M. J.; Golden, R., and Flood, C. A.: Oral Banthine, an Effective Depressor of Gastrointestinal Motility, Gastroenterology **17**: 551 (April) 1951.

[6] Sleisinger, M. H.; Steinberg, H., and Almy, T. P.: The Disturbance of Esophageal Motility in Cardiospasm, Gastroenterology, to be published.

[7] Nickerson, M., and Call, L. S.: Treatment of Cardiospasm with Adrenergic Blockade, Am. J. Med. **11**: 123 (July) 1951.

[8] Kern, F., Jr.; Almy, T. P., and Stolk, N. J.: Effects of Certain Antispasmodic Drugs on the Intact Human Colon, with Special Reference to Banthine, Am. J. Med. **11**: 67 (July) 1951.

[9] McHardy, G. G., and others: Clinical Evaluation of Methantheline (Banthine) Bromide in Gastroenterology, J. A. M. A. **147**: 1620 (Dec. 22) 1951.

[10] Texter, E. C., Jr., and others: Prolonged Drug Therapy in Peptic Ulcer: An Evaluation of Banthine as An Adjunct to Conventional Ulcer Therapy, South. M. J. **40**: 1062 (Nov.) 1953.

Those patients taking methantheline had significantly fewer and milder recurrences than those taking atropine; however, the incidence of recurrences was high in both groups—75% in those taking methantheline and 90% in those taking atropine. It was found that those patients whose symptoms were classified as being mild prior to beginning the study had no recurrences while taking methantheline, whereas in those with severe symptoms the incidence of recurrences was essentially the same in both groups. In spite of the frequency of recurrences in both groups, 75% of those patients taking methantheline had good results as compared with 57% of those taking atropine.

Despite greater symptomatic relief while taking methantheline, the development of complications (hemorrhage, perforation, or obstruction) and the number of patients requiring surgery were essentially the same in both groups. From these studies it was concluded that the eventual course of the disease was not altered significantly by the administration of methantheline, although symptomatic improvement usually occurred while the patient was taking the drug.

Complications of Ulcer.—The role of these drugs in the treatment of two of the complications of ulcer, hemorrhage and obstruction, is also controversial. There is little, if any, published data on this subject. Some feel that reduction in acidity and motility is desirable in patients with active bleeding, while others believe that lack of tone and dilatation of the stomach are detrimental. There is no evidence that these drugs alter the clotting mechanism.[10] Likewise, in patients with obstruction reduction in acidity and spasm is thought to be beneficial; on the other hand, paralysis of the stomach might make complete a previously partial obstruction.

In our experience, no rules can be laid down that apply to all cases, and each patient must be evaluated individually. To illustrate, patients with mild hemorrhage usually recover with conventional medical management alone, and the anticholinergic drugs are unnecessary. In moderately severe hemorrhage, these agents may be used parenterally, provided immediate surgery is not contemplated and constant gastric suction is employed. In massive hemorrhage, either with or without shock, the likelihood of surgical intervention contraindicates their use. Patients with partial gastric retention, especially that associated with spasm due to active ulcer, are frequently benefited by these drugs. In severer retention, however, abolition of peristalsis usually aggravates the condition. Obvious pyloric stenosis due to scarring is a definite contraindication to their use. It is generally agreed that these drugs are contraindicated in perforation into the free peritoneal cavity.

In any patient in whom abdominal surgery is contemplated, these drugs should not be used during the immediate preoperative period because of dilatation and paralysis of the stomach and small intestine. For the same reason their use is contraindicated in the postoperative period. Furthermore, the drugs should not be used immediately preceding roentgenologic study of the upper gastrointestinal tract because the roentgenologist will have great difficulty in interpreting his findings properly in a partially paralyzed stomach.

COMMENT

With the advent of the anticholinergic drugs, the profession has at its disposal for the first time agents that are effective in reducing both secretory and motor activity of the stomach. These drugs have been proved extremely useful as adjuncts to conventional management of active peptic ulcer, whether duodenal, gastric, or marginal. Their most striking clinical effect is the relief of ulcer pain, which is frequently dramatic after parenteral administration. It is of interest to note that this relief of pain is synchronous with cessation of gastric motility despite artificially produced high acid values.[11] Relief of pain, however, is not necessarily indicative of healing as ulcer craters have been observed to persist for weeks or months under treatment even though the patient was symptom-free. There are no accurate data on the effect of these drugs on the healing time of ulcer. In fact, measurement of the healing time in duodenal ulcer is so difficult that it is doubtful that such data can be obtained.[12] These agents have been disappointing in the long-term management of ulcer, since recurrences are not prevented and the incidence of complications or the need for surgery are not significantly altered by their prolonged administration. It should be emphasized that these drugs are not necessary in the management of the simple, uncomplicated ulcer.

It is to be hoped that more effective compounds will be developed that will enable physicians to control more satisfactorily, if not to prevent, the recurrences and complications of peptic ulcer.

[11] Legerton, C. W., Jr.; Texter, E. C., Jr., and Ruffin, J. M.: The Mechanism of Relief of Pain in Peptic Ulcer by Banthine, South M. J. 45:310 (April) 1952. Hightower, C. N., Jr., and Gambill, E. E.: The Effects of Banthine on Pain and Antral Gastric Motility in Patients with Duodenal Ulcer, Gastroenterology 23:244 (Feb.) 1953. Ruffin, J. M.; Baylin, G. J.; Legerton, C. W., Jr., and Texter, E. C., Jr.: Mechanism of Pain in Peptic Ulcer, ibid. 23:252 (Feb.) 1953.

[12] Ivy, A. C.; Grosman, M. I., and Bachrach, W. H.: Peptic Ulcer, Philadelphia, The Blakiston Company, 1950, p. 151.

Protecting the Farmer from Poisonous Dusts.—Fungicidal dusts containing organic mercury compounds are widely used in agriculture, particularly as seed disinfectants to prevent the smut diseases of cereals. For many years mercurial derivatives of the phenyl and tolyl series have been manufactured without any mishaps worse than an occasional burn on the skin. However in 1940 it was found that poisoning by inhalation of a compound of the methyl series affects the nervous system in a unique manner. The typical signs of mercurialism are not found. There are severe generalized ataxia, dysarthria, and a gross constriction of the fields of vision, memory and intelligence remaining unaffected. In severe cases the patients are permanently crippled and unable to stand or to speak intelligibly. In the manufacture of organic mercury compounds, elaborate precautions must be taken to prevent either contact with the skin or inhalation. The use of gloves and respirators is not enough. The whole process of manufacture, including the final packing of the dusts, must be carried out mechanically in closed apparatus. The lower alkyl mercury compounds should never be made or handled. The farmer should be protected both by warnings that mercurial dressings are poisonous and by schemes whereby he can obtain seed already dressed.—D. Hunter, M.D., Occupational Diseases with Neurological Symptoms and Signs, *The Practitioner,* July, 1953.

HUMAN BRUCELLOSIS CAUSED BY BRUCELLA ABORTUS, STRAIN 19

Wesley W. Spink, M.D.
and
Hugh Thompson, M.D., Minneapolis

In 1923, Buck[1] isolated a virulent culture of Brucella abortus from the milk of a cow. This culture, after standing at room temperature for a year, remained smooth, and although its virulence was considerably reduced, its antigenic properties were retained. After hundreds of subcultures and passages through animals, the original virulence of this strain has not been regained. Because of these stable characteristics, the Bureau of Animal Industry of the United States Department of Agriculture has successfully encouraged the use of strain 19 for immunization of cattle against brucellosis. Persistent infections in animals have not been established in this manner.[2]

The question has often arisen as to whether humans are ever infected by strain 19. No evidence has ever been presented to show that persons have contracted brucellosis from cattle as a result of vaccination with this strain. Gilman,[3] however, has put forth a cautionary note for those handling the vaccine by stating "that Strain 19, is under certain conditions, capable of infecting humans." He cited the instance of a student in veterinary medicine who became accidentally infected after entrance of the organisms into the mucous membrane of the eye while he was vaccinating a calf. As far as we know, this is the only recorded instance in which evidence indicates that a human infection was caused by strain 19. For this reason, we are reporting two cases of brucellosis that occurred in veterinarians who were immunizing calves. While the organism was not recovered from the first patient, the evidence indicates quite clearly that strain 19 was the cause of his illness. The second man was infected under circumstances similar to those in Gilman's case; entrance into the body was through the mucous membrane of the eye while a calf was being vaccinated. Brucella organisms isolated from the patient's blood had characteristics compatible with those of strain 19.

REPORT OF CASES

CASE 1.—A 25-year-old married white veterinarian was vaccinating calves on June 6, 1950. During the course of his work, he dropped the needle and syringe on the ground at 1:00 p. m., and, when he picked up the syringe, the needle accidentally entered the palm of his right hand. At 7:00 p. m. that evening, his hand became swollen, painful, and tender. At 11:00 p. m., he took 250 mg. of chlortetracycline (aureomycin) by mouth. He had a restless night. By morning his temperature was 102 F, and he had chills and generalized body aches. He took two more doses of chlortetracycline, 250 mg. each, four hours apart. His physician then recommended hospitalization.

There were several points in the history of this man that contributed to an understanding of the pathogenesis of his illness. For several months he had had a chronic skin eruption, particularly on his arms, that involved the hair follicles. The lesions presented small reddened areas of suppuration. He noted that whenever blood from a cow with brucellosis contaminated his hands and arms there was a marked accentuation of the rash. In August, 1949, he had had a Brucella agglutinin titer of 1:80, and in November, 1949, a titer of 1:160, which indicated an inapparent Brucella infection. The flaring of the rash on his arms when brought into contact with blood from infected cows indicated a state of hypersensitivity to Brucella antigen, a condition common to veterinarians as pointed out by Huddleson.[4] Furthermore, he stated that about one and one-half years before his present illness, he had a similar accident when the needle on a syringe, which contained viable organisms of strain 19, entered his foot. At that time he had a localized reaction but no systemic complaints.

On admission to the hospital, approximately 24 hours after the accident, the man's temperature was 102.2 F and pulse rate 88 per minute. He appeared toxic with a hot and flushed face. There were no abnormal physical findings except a folliculitis of the upper part of the arms and chest. There was a puncture wound in the palm of the right hand between the bases of the third and fourth fingers. The hand was swollen and tender. The right forearm displayed lymphangitis, with tenderness along the flexor surface. The axillary nodes on the right side were enlarged and tender. The initial laboratory data revealed a normal urine analysis. The hemoglobin was 14.1 gm. per 100 cc., and the total leukocyte count was 6,850 per cubic millimeter, with 89% polymorphonuclear neutrophils and 11% lymphocytes. The erythrocyte sedimentation rate was normal. Agglutinins for Brucella were present in a titer of 1:160, and an initial blood culture remained sterile. The man was treated with chlortetracycline; he received 500 mg. four times daily. Hot packs were applied to the right hand. His clinical course is outlined in figure 1. During the first 36 hours, illness was marked by shaking chills and fever. On the third day, the patient felt much better, but the right middle finger was tender and movement of the digit was painful. He continued to improve, and he went home on the ninth day. He continued to take chlortetracycline for a total of 21 days. Except for a small amount of swelling of the right middle finger and limitation of motion, there were no residuals of the illness at the time the man was discharged from the hospital.

In summary, this is the case of a man who had been previously exposed to brucellosis. Evidences for this exposure were the presence of Brucella agglutinins in his blood and the marked state of hypersensitivity to Brucella antigen. The introduction of strain 19 into his hand resulted in both localized and systemic reactions. It is not known whether the man's blood stream was invaded by viable Brucella because cultures remained sterile. It should be remembered that chlortetracycline was administered before specimens of blood were obtained for culture. The type of illness observed in this man is not uncommon and is seen oftenest in persons in whom Brucella antigen has been injected for diagnostic or therapeutic purposes. It is a manifestation of tissue hypersensitivity to Brucella antigen. Persons repeatedly exposed to Brucella, such as veterinarians and laboratory workers, are most likely to display this type of illness.

CASE 2.—A 25-year-old, unmarried, white student of veterinary medicine was in an excellent state of health prior to his illness. During the latter part of March, 1953, he secured temporary work with a veterinarian immunizing calves with strain 19. Eight days before the onset of his illness, the student

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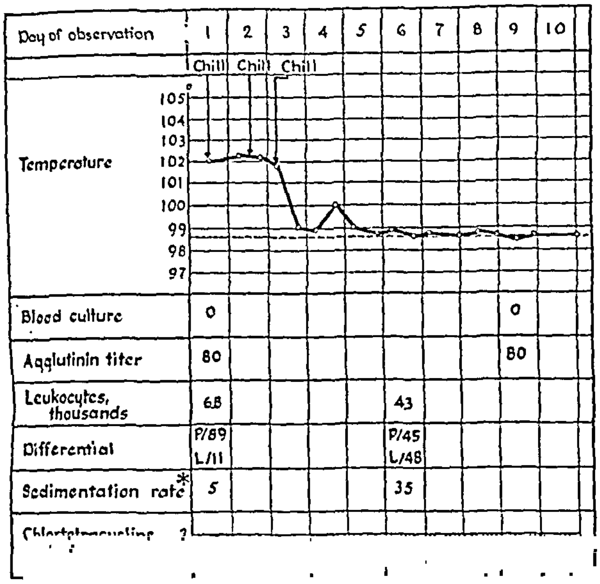
From the Department of Medicine and the Student Health Service, University of Minnesota Hospitals and Medical School.

1. Graves, R. R.: Story of John M. Buck's and Matilda's Contribution to the Cattle Industry, J. Am. Vet. M. A. **102:** 193, 1943.
2. Traum, J.: The Control of Brucellosis in Animals by the Use of Vaccine, Brucellosis: A Symposium, Washington, D. C., American Association for Advancement of Science, 1950, p. 225.
3. Gilman, H. L.: Undulant Fever Caused by Brucella Abortus, Strain 19, Cornell Vet. **34:** 193, 1944.
4. Huddleson, I. F.: Brucellosis in Man and Animals, New York, Commonwealth Fund, 1939, p. 55.

was vaccinating a calf in the caudal region. He was using a lyophilized preparation of strain 19 that had been reconstituted in 6 ml. of solution. According to the standards of the Bureau of Animal Industry, under which this material is marketed, the suspension contained a minimum of 10 billion viable organisms per milliliter. While bending over in an attempt to inject a portion of the suspension into the subcutaneous tissue of the animal, an obstruction to the flow through the needle was encountered, and, because of back pressure, "most of the suspended organisms" contained in the syringe were splashed into both eyes. No inflammatory reaction of the ocular tissues ensued, and the student suffered no ill effects until eight days later when pain in the muscles occurred and was followed by frontal headaches, chills, and fever. He became progressively worse, and 11 days after the onset of the illness he entered the hospital.



* Millimeters per hour, Westergren

Fig. 1.—Clinical course of patient (case 1) with brucellosis caused by Brucella abortus, strain 19.

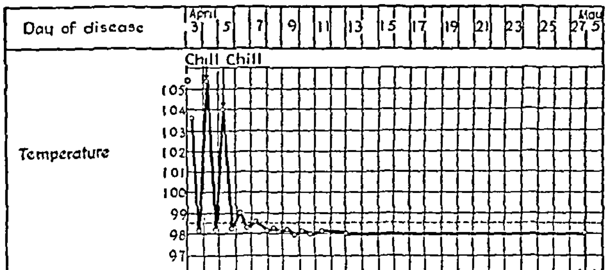
Of particular interest in this patient's history is the fact that he had always enjoyed good health. It was known that he did not have Brucella agglutinins in his blood prior to this illness. When he entered the hospital he was quite ill and exhibited evidence of severe toxemia. His outstanding complaints were marked weakness and rigors followed by fever. He had generalized body aches, with severe occipital headache and pain over the lumbar area. He was anorexic and restless.

Physical examination revealed a temperature of 103 F; pulse, 100; and blood pressure, 130/70 mm. Hg. His skin was warm and moist. No lymphadenopathy was present. The eyes appeared normal. The only physical abnormality noted was an enlarged and tender spleen palpated 2 cm. below the left costal margin. There was pain on percussion over the lumbar spine. The urine analysis was normal. The hemoglobin level was 16.2 gm. per 100 cc. The leukocyte count was 5,700 per cubic milliliter, with 87% polymorphonuclear neutrophils, 11% lymphocytes, and 2% monocytes. The erythrocyte sedimentation rate was normal. During the first 48 hours after admission, eight specimens of venous blood were cultured in Albimi Brucella broth. From one of these cultures, an organism compatible with Br. abortus, strain 19, was isolated. The initial Brucella agglutinin titer was 1:320. A skin test done with brucellergen elicited a mild localized reaction.

The patient's clinical course is presented in figure 2. He had severe episodes of chills, and on the second day his temperature was over 105 F. Because of the seriousness of his illness, treatment was initiated with 0.5 gm. of dihydrostreptomycin given intramuscularly twice daily and 0.5 gm. of chlortetracycline administered orally four times a day. Within 24 hours his temperature dropped to normal, and within 72 hours he felt much better. He progressively improved, and on the fourth day of treatment his appetite had returned. After seven days of treatment the administration of dihydrostreptomycin was discontinued. Chlortetracycline was continued, however, and was given for a total of 21 days. It should be noted that, on the ninth day after admission, the patient's Brucella agglutinin titer was 1:2,560 and that blood cultures remained sterile. Except for some slight residual weakness when he left the hospital after a stay of 11 days, the patient had recovered. When seen one and two months later, he was completely recovered. His agglutinin titer was 1:1,280 one month and 1:320 two months after discharge.

BACTERIOLOGICAL IDENTIFICATION

In view of the exposure of the patient in case 2 to Br. abortus, strain 19, extensive studies were carried out on the culture obtained from his blood. The primary culture was acquired in Albimi Brucella broth [5] contained in a bottle to which 10% carbon dioxide had been added. The first subculture grew aerobically, which is extremely unusual in our laboratory for freshly isolated strains of Br. abortus. A Gram stain of the culture revealed the characteristic gram-negative coccobacillary forms. The initial culture consisted of smooth colonies. A suspension in 0.85% sodium chloride solution was agglutinated by antibrucella rabbit serum. On dye plates, growth took place in the presence of basic fuchsin, but thionine inhibited growth. These observations indicated that the culture contained Br. abortus, and the fact that the first subculture grew freely without added carbon dioxide suggested that this was a culture of Br. abortus, strain 19.



* Millimeters per hour, Westergren

Fig. 2.—Clinical course of patient (case 2) with brucellosis caused by Brucella abortus, strain 19. Note that an initial culture of blood yielded Brucella organisms.

Comparative studies were then made with three virulent strains of Br. abortus previously isolated from patients. The strains are known in this laboratory as 1,

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[5] The Albimi Brucella broth was supplied by Albimi Laboratories, Inc., 16 Clinton St., Brooklyn, N. Y.

Lynch 524, and El 9-28. The latter strain was isolated from a patient with subacute bacterial endocarditis. The standard culture of strain 19 was obtained from the Bureau of Animal Industry, and a lyophilized culture of strain 19 was studied that was similar to the one used by the patient while attempting to immunize a calf.[6] The strain isolated from the blood of the patient is known as 2068 in our laboratory. The results of these investigations with these strains are presented in the table. It is to be noted that the three virulent strains of Br. abortus did not reproduce under aerobic conditions but that they required addition of carbon dioxide, which is in contrast to the two cultures of strain 19, and strain 2068 isolated from the patient. The virulent strains grew abundantly on agar plates containing from 0.2 to 0.6 mg. per milliliter of thionine blue [7] or methylene blue. The growth of two cultures of strain 19 and that of strain 2068 was, on the other hand, inhibited in all of the concentrations of dyes. Comparative virulence studies were carried out in guinea pigs using an inoculum of 1 million organisms from a culture that had been grown for 48 hours on Albimi Brucella agar. The bacterial suspensions were injected intraperitoneally into male guinea pigs, and the animals were killed six weeks later. None of the animals appeared ill when killed. As shown in the table, there was evidence that an infection was established in animals receiving the virulent cultures, Lynch 524 and El 9-28. Brucella agglutinins were demonstrated in the serum, and either lesions were seen or Brucella were recovered from the tissues. Animals that received strain 19 and strain 2068 displayed no evidence of an infection. In a second type of virulence study to be reported in detail elsewhere, a suspension of 10 billion organisms was injected intravenously into white mice. Under these circumstances the virulent strains of Br. abortus caused death within 24 hours, whereas strains 19 and 2068 were less lethal; the mice succumbed only in three to seven days.

Comparative Studies with Virulent Cultures of Brucella Abortus, Cultures of Strain 19, and the Strain Isolated from the Patient in Case 2 (Strain 2068)

			Inhibition of Growth by Dyes (0.2 to 0.6 Mg./Ml.)		Virulence Studies	
Strain	Source	Growth Under Aerobic Conditions	Thionine Blue	Methylene Blue	In Guinea Pigs	In Mice
1	Human	Failed to grow; required added CO_2	None	None	....	....
Lynch 524	Human	Failed to grow; required added CO_2	None	None	1:40 agglutinins; Brucella recovered from spleen	Caused death in 24 hr.
El 9-28	Human	Failed to grow; required added CO_2	None	None	1:2,560 agglutinins; granulomas in liver	Caused death in 24 hr.
19	Bureau of Animal Industry	*Grew abundantly*	Complete	Complete	*No agglutinins or lesions* and no recovery of organisms	Caused death in 3-5 days
19 Lyophilized	Pitman-Moore Co.	Grew abundantly	Complete	Complete	....	....
2068	Human	Grew abundantly	Complete	Complete	No agglutinins or lesions and no recovery of organisms	Caused death in 3-7 days

These investigations revealed that the strain of Br. abortus isolated from the blood of the patient possessed the characteristics of strain 19. The culture was smooth and growth took place readily under aerobic conditions, but the organisms did not reproduce in the presence of thionine blue and methylene blue. Studies in guinea pigs and mice demonstrated reduced virulence when compared to strains of Br. abortus isolated from human subjects.

Because it was highly desirable that the identity of this strain be determined in other laboratories, subcultures were submitted to two competent persons who have had considerable experience in differentiating the dissociates of Brucella organisms. Dr. Norman B. McCullough, chief of the Laboratory of Clinical Investigation in the National Microbiological Institute, Bethesda, Md., kindly studied this strain and then submitted the following report: "Prior to making our observations with Brucella abortus culture 2068, we isolated the nearest to smooth phase represented in the culture. From a morphological standpoint, I would classify this phase as an early intermediate, that is Huddleson's SI_1. We were unable to recover an S phase from the culture. In comparison with Strain 19, this culture exhibits a similar dissociation pattern. Furthermore, we inoculated Strain 19 and Strain 2068 into guinea pigs using three different dosages and three animals for each level. Both Strain 19 and Strain 2068 were recovered from the tissues of guinea pigs at the dosage level of one million organisms but not at one thousand. Strain 2068 failed to produce evidence of gross pathology with any of the dosage levels. From our studies then, culture 2068 has the same infectivity as Strain 19 for guinea pigs. It is like Strain 19 in that it is not a smooth, but an intermediate colony type, and exhibits the same dissociation pattern as Strain 19. These data coupled with the studies which you have already done, would seem to me to identify your culture as presumably Strain 19, as well as one will ever be able to do. All of the data are in accord with the hypothesis that this is Strain 19. No data are contradictory."

Dr. C. A. Manthei, head of the Section on Bacterial and Mycotic Diseases in the Animal Disease Station of the Agricultural Research Center, Beltsville, Md., also kindly studied this culture and stated: "According to our tests, the culture is a strain of Brucella abortus that did not require CO_2 for growth. Tests for virulence were conducted in guinea pigs and on tryptose agar plates containing various concentrations of thionine blue. The latter tests indicate that the virulence of Strain 2068 is similar to that of Strain 19. It is impossible to make a more positive statement because there are no tests at the present time that will unconditionally identify Strain 19."

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[6] The Brucella abortus (B. A. I. Strain 19) organisms were supplied by Dr. R. V. Johnston, Pitman-Moore Company, Indianapolis.

[7] McLeod, D. H.: The Use of Thionine Blue for the Identification of *Brucella Abortus, Strain 19, J. Comp. Path. & Therap.* **54**: 248, 1944.

In summary, this patient had a demonstrable bacteremia due to Br. abortus. Subsequent studies of the causative organism indicated that it was Br. abortus, strain 19. In contrast with the illness in case 1, the genesis of this patient's illness could not be ascribed to a state of hypersensitivity, since no ocular reaction followed the introduction of large numbers of organisms into the eye, and a skin test with brucellergen yielded only a mild, local reaction. Investigations now in progress indicate that the patient's illness was associated with endotoxin liberated by strain 19. This endotoxin is found in common with the more virulent strains of Br. abortus, and comparative studies in animals show that, under certain circumstances, the endotoxin from strain 19 is just as lethal as the endotoxin from the more invasive strains. These observations suggest that, given the proper host in which strain 19 can reproduce, illness will result because of the liberation of endotoxin. This mechanism is being investigated further in experimental animals.

COMMENT

An effective means for immunizing cattle against brucellosis involves the infection of viable organisms of Br. abortus, strain 19. In the campaign to eradicate bovine brucellosis, strain 19 is being used extensively in the United States and in other countries where Bang's disease is a problem. This report on human brucellosis caused by strain 19 does not imply in any way that the use of this vaccine should be curtailed. It does emphasize, however, that strain 19 is not innocuous and that it should be handled only by qualified persons, preferably veterinarians, and then with the knowledge that the accidental introduction of the organisms into the human subject may be followed by illness.

SUMMARY AND CONCLUSIONS

Two veterinarians became ill after the accidental introduction of Brucella abortus, strain 19, into their tissues. In one, the illness was associated with marked hypersensitivity to Brucella. The organism was isolated from the blood stream of one of the patients who was quite ill with brucellosis, and the organism was identified as Br. abortus, strain 19. This is the first recorded instance in which such bacteriological proof has been accumulated and that shows that human brucellosis can be induced by strain 19. This report does not call for the restriction of immunization programs for bovine brucellosis but emphasizes that strain 19 should be employed cautiously and only by properly qualified persons.

1916 East River Terrace (14) (Dr. Spink).

RECURRENT ANAL FISSURE

CONCEPT OF PATHOGENESIS AND TREATMENT

Guy L. Kratzer, M.D., Allentown, Pa.

Chronic anal fissure represents one of the most painful diseases occurring in the anorectal area. Cure requires removal of all abnormal tissue and is primarily a surgical problem. Proper correction results in dramatic relief. The surgeon learns early in his career that some of the most grateful patients are those who have been successfully operated on for chronic anal fissure. The majority of these patients remain well. A significant number suffer from recurrence. It is for this reason that the present study was undertaken.

DEFINITION OF PROBLEM

A fissure is a slit-like elongated ulcer at or near the anorectal line. It is commoner in men than in women. It occurs during the active years of life and is most commonly found in the posterior portion of the anal canal. Recurrence, after all forms of treatment and particularly after medical management and some forms of surgical treatment, is frequent enough to warrant a review of the etiology and pathogenesis of fissure.

Removal of the ulcer alone will not result in a high enough incidence of cure. An attempt at removal of the cause must be made. The problem in theory is analogous to the surgical management of duodenal ulcer.

During the past decade, occasional recurrence of fissures was noted. These recurrences were noted in patients who had been subjected to injection therapy, anal dilatation alone, or anal dilatation combined with limited surgery or excision of the ulcer without removal of the associated disease process. The patients in this category were treated in the physician's office or the hospital. None of the patients in this group with recurrences were subjected to a complete rectal operation, that is, removal of all associated abnormal tissue, such as crypts, papillae, and hemorrhoids. This aroused interest and an attempt was made to explain the higher incidence of recurrence of fissures following the limited types of surgery than in those including more complete eradication of abnormal tissue.

PRESENT KNOWLEDGE

A review of our present concept of fissure is justified. The investigation concerns chronic anal fissure only and is not concerned with the acute fissure or break in the anal skin that occurs from trauma instituted by hard stool or other foreign body. These lesions heal spontaneously unless the causative trauma is repeated indefinitely.

The classic description of the abnormality indicates that an anal fissure is a superficial ulcer, with thin edges and a smooth base that may be either pink or red. Furthermore, the commonly accepted theory suggests that, after the original ulcer or break in the skin occurs, the fecal discharges initiate a chronic inflammatory process

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From Department of Proctology, Allentown Hospital.

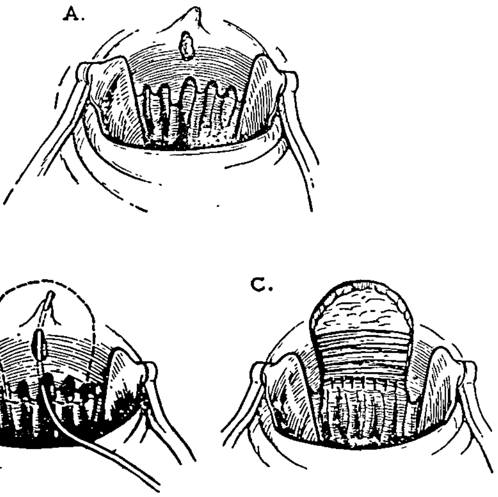
Read before the Section on Gastroenterology and Proctology at the 102nd Annual Meeting of the American Medical Association, New York, June 3, 1953.

with resultant edema and reaction that eventually result in the elongated sentinal pile and fibrous papilla; hence the classic triad of sentinal pile, ulcer, and papilla. The commonly accepted causes of fissure are (1) angulation of posterior rectal wall with anal canal, (2) subcutaneous sphincter constitutes a bar, (3) first part of the anal sphincter lacks support and allows trauma to skin, (4) lack of firm support anteriorly in women, (5) failure of the second portion of the anal sphincter to decussate posteriorly, and (6) faulty anal hygiene and poor bowel habits.

The three commonest complications of fissure, according to classic knowledge, are formation of a subcutaneous abscess with formation of a blind or incomplete fistula, anal contraction, and constipation with all its associated ills.

INVESTIGATION

On the basis of a liberal experience, the statement may be made that one may remove, in a given case, all heretofore described pathological tissue, dilate the sphincter, incise or excise a portion of the sphincter, and in every way follow the teaching of previous years and still have a comparatively high recurrence rate of fissures. The conclusion to be drawn, then, is that some causative factor or pathological process has been overlooked.



A, appearance of typical anal fissure; *B*, fissure associated with fistula; and, *C*, wound after removal of diseased tissue.

It is not claimed that anything new has been added to the literature; however, a few pertinent observations are recorded. On numerous occasions during surgery, the presence of a fistula associated with fissure was noted. The primary opening occurred in a crypt, one secondary opening occurred at the site of the fissure, and another secondary opening occurred on the skin at a distance beyond the fissure. This immediately posed the question as to the possibility of whether the fissure might merely be a manifestation of a fistula. This observation suggests that something in addition to simple ulcer is involved. The analogy of pathogenesis of fistula and fissure is definitely suggested. This observation suggests the necessity of a search for a disease process that is not obvious on gross examination.

It is the exception rather than the rule that patients with anal fissure will need surgery only for this entity Invariably, when one makes a thorough examination during the surgical operation, other abnormalities, such as infected crypts, enlarged anal papillae, hemorrhoids anal contraction, skin tags, abscesses, or other evidences of infection, will be observed. Of all these abnormalities none seems to be so prominent as infection of the crypts Although a frank fistula, which may be probed, is no always observed, the crypts frequently present evidence of infection, such as hyperemia, exudation, or unusua penetration. This suggested the possibility that microscopic examination might clarify the problem.

In 1947, Dockerty and I,[1] reported the results of an investigation to determine the presence or absence of ana ducts in the human, their nature, their relative position in the various areas of the anal canal, and their possible relationship to disease of the terminal bowel and its adjacent structures. These microscopic tubules communicate with the anal crypts and may extend into or through the sphincter muscle. There are seldom more than six or eight of these ducts. Their lining consists chiefly of several layers of polygonal cells, but the ampullae and branches are lined with one or two layers of cuboidal cells. They are most commonly found in the posterior portion of the anal canal. In a limited study of human embryos, their incidence was slightly greater in the male than in the female embryos.

In a previous study of 100 anal crypts, it was noted that in practically every instance in which cryptitis was found there was also associated inflammatory reaction about the ducts. This observation stimulated further investigation and accordingly several hundred slides made from tissue taken at the time of operation from patients with gross evidence of disease involving one or more anal crypts were studied. Those that did not show ducts were eliminated. The slides showing ducts were investigated to determine the presence or absence of cryptitis and inflammatory reaction of the ducts themselves. Obviously these sections were in a selected group since each one to be included in this study had to show the crypt with a portion of rectal mucosa above and anal skin below and the underlining tissue containing the ducts. This group consisted of 24 sections.

The term cryptitis indicates a diagnosis of a pathological condition that is made microscopically. To be so designated, the crypt must show unusual infiltration of the tissue with polymorphonucular leukocytes, plasma cells, lymphocytes, or a combination of these cells. In the chronic forms, fibrous tissue is usually an associated finding. In this study it was possible to designate each case of cryptitis as an acute, subacute, or chronic process. Of these 24 cases, 9 showed definite cryptitis. Of the nine, eight showed evidence of periductal inflammation. Only two cases showed periductal inflammation without apparent disease of the crypts. One case in the series showed the presence of cryptitis and polymorphonucular leukocytes in the lumen of the duct without apparent periductal inflammatory reaction. Normal ducts did not show such a collection of cells. It was not difficult to distinguish the normal duct from the abnormal one. Similarly, it was not difficult to distinguish the normal crypt from one involved in an inflammatory process.

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[1] Kratzer, G. L., and Dockerty, M. B.: Histopathology of the Anal Ducts, Surg., Gynec. & Obst. 84: 333-338 (March) 1947.

METHOD OF INVESTIGATION

The frequent association of fissure with cryptitis manifested by gross appearance lead to the suspicion that perhaps such associated infection accompanied all cases of fissure. To be sure, gross evidence was not present in all cases, but, on the basis of the previous study, it was not improbable that all such crypts would show microscopic evidence of infection. The possibility existed that residual infection in the crypts at least aggravated, if not originated, the anal fissure.

For these reasons, then, it was decided to prove or disprove this theory. The only way was to remove the crypts in the respective quadrant along with the fissure and associated abnormal tissue, follow these cases, observe the results, and compare them with cases treated by excision of the fissure alone. The technique is simple (see figure). The entire quadrant of the anal canal was excised in such a manner as to include the fissure, the crypts, the hemorrhoids, and associated abnormalities. Great care was exercised to avoid injury to muscle. The cut edge of mucosa was then anchored to the internal border of the external sphincter by continuous suture. A smooth wound, devoid of overhanging edges, which would heal easily, resulted. Approximately 300 patients were treated in this manner. They were followed for at least one year. None of the fissures to our knowledge has recurred. On the other hand, approximately 100 fissures were treated by ulcer excision only, usually as an office procedure. At least five are known to have recurred. The more thorough or adequate procedure is really very little more difficult to perform than the limited procedure. The superior results justify this effort.

COMMENT

Cryptitis is frequently observed in association with fissure, and it seems possible that such infection is the real cause of fissure. The probable sequence of events is cryptitis, burrowing of infection by way of the anal ducts or periductal lymphatics and following the path of least resistance underneath the loose skin distally. The comparatively thin skin, made friable by the effects of inflammation, would allow for its disruption just below the dentate line and eventually result in a fissure. Bowel movements would intensify the reaction; each acute attack would stimulate the formation of more indurated tissue. Each remission would allow the formation of fibrous tissue. This would account for the fibrous papillae and skin tags so frequently observed. The inability of the fissure or ulcer to heal spontaneously, because of a lack of drainage, would account for progression of disease in the formation of a subcutaneous sinus (fistula) somewhat beyond the fissure. From the viewpoint of pathogenesis, a fissure is a secondary opening of a fistula. The subcutaneous sinus seen in many cases of fissure would be another secondary opening. The analogy is definitely suggested. The layman's confusion in terminology of fissure and fistula may be scientifically justified.

The results in the 300 cases studied indicate that removal of infected crypts is important in obtaining a high incidence of cures. Removal of the corresponding crypts should be added to the classic operation for chronic anal fissure. This may be done safely without resulting scar formation at the anorectal ring. There is the possibility that anal fissure might behave, and should be treated, as an anal fistula. This phase of the subject requires more investigation.

SUMMARY AND CONCLUSIONS

This study presents a concept of the possible pathogenesis and treatment of chronic anal fissure. Failure to remove all pathological tissue, including infected anal crypts, may be a cause of recurrence.

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TODAY'S MEDICINE IN UNDERDEVELOPED AREAS

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Recently there has been a growing interest in the economic plight of village people in distant lands. Bold new programs to increase food production, to provide opportunities for education, and to improve health have been launched with the support of the United States Government and private foundations. During the past year, I have spent about four months in India as medical advisor to the government of India and the Ford Foundation. The primary purpose of these visits was to assist in the development of a village health program that would integrate with the other aspects of the community development program in India.

The health of a villager in India is the result of the interplay of a number of factors, some of which would at first glance seem far removed from health. Any endeavor to improve the health of an Indian villager must consider existing health practices and prejudices, the role of indigenous medical practitioners, and related problems. The material in this paper attempts to emphasize some of these problems in the health field. Although the remarks refer to experiences in India, the basic problems apply to a number of countries that have predominantly peasant populations. The information and ideas have been gathered from travels to many village areas in India. I am particularly grateful to several outstanding Indian health leaders who have been willing to lead me through the maze of an Indian village or to tell me of the country and its problems. With the leadership of such persons as K. C. K. E. Rajah, D. S. Lakshmanan, and others, India is steadily moving forward in meeting her varied health problems.

FACTORS THAT CONTRIBUTE TO HEALTH

Size, Population Distribution, and Climate.—The size of a country, the distribution of its people, and its climate

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Oscar Lewis, Ph.D., collaborated in this study.

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are important factors in a nation's health. India is a vast subcontinent of 375 million people, 85% of whom live in villages. Facilities for transportation and communication are limited. Travel by air is easy between large urban centers, but the 500,000 villages have limited, if any, access to transportation, and for two to four months of the year monsoon rains isolate many of them completely. Thus, for really adequate medical care or preventive programs, the majority of the villages must be self-sufficient. A physician, a clinic, or a nurse 10 miles away often means no physician or nurse.

Education.—Health and education usually go hand in hand, and in India about 88% of the population is illiterate. Only about 25% of the villages have any facilities for primary education, and these are often overcrowded and poorly equipped. Several provinces have made two years of primary education mandatory. Frequently a school consists of a gathering, in a shaded place, of a teacher with a class of from 50 to 100 students varying in age from 6 to 16 years. There are 11 different languages and several hundred dialects. Obviously, these factors pose serious problems in any program of health education.

Religion.—Religious practices affect health in many ways. Dietary disciplines, such as the complete vegetarianism dictated by Hinduism, often swing the balance toward malnutrition or famine in lands where available protein foodstuffs are, at best, inadequate by modern standards. Attitudes toward animals may be of considerable health importance. India's 200 million cows are sacred. They often roam through markets, gardens, and homes devouring vegetation that is badly need for human consumption and they do not compensate for their food intake by returning a plentiful milk supply.

In areas populated by Moslems the segregation of women by the purdah system has resulted in a high incidence of tuberculosis. The caste system is unique to India, yet the attitude of segregation of the wealthy few from the impoverished masses reflects a problem in health work in any underdeveloped area. Actually, under the system of five major castes and numerous subcastes a physician or nurse of one caste group often could not treat a patient of another group. In the allocation of land areas, the low castes and the untouchables received land that was least promising for food production and wells or tanks that were most heavily contaminated or had the lowest reserve when supplies everywhere were low. The typical village of untouchables is a poor Indian village with inadequate huts, a foul well, and no usable latrines, and some of the natives are now faced with leaving even these because of the depredations of wild boars in their fields. The caste system has been outlawed, but, as with other attitudes involving segregation, many years will pass before it disappears.

Superstitions Regarding Disease.—All peoples, tribal, peasant, and urban, have their own beliefs and practices of health and disease, often based on many years of trial and error. These beliefs and practices are a most important factor in establishing programs to improve health. They are especially important in villages where religious practices are followed rigidly, and they are the basis for programs of health education, or health reeducation. Dr. Oscar Lewis, professor of anthropology at the University of Illinois, has been working with the Ford Foundation in India and has developed, by interview techniques, a large amount of valuable information regarding health attitudes in a north Indian village. It is impressive that these attitudes exist in a village within 15 miles of New Delhi, a modern, highly westernized city that has served as the seat of government for India since 1921 and has had a large Western population. For example, eight village adults of varying social status believe the following factors could cause typhoid, which is a very prevalent disease in village areas: (1) influence of bad spirits, (2) excessive heat in body, (3) working hard in the sun, (4) foul air entering the body, (5) upset stomach and constipation, and (6) eating watermelons of poor quality. It is evident that most of these ideas actually could be used in teaching the germ theory of disease. Similarly, the prevailing concepts of treatment or cure emphasize a low residue bland diet and interestingly, the desirability of using boiled water. Other methods of treating the disease were: (1) making offerings to the Goddess of the Neck; (2) use of browned flour, sugar, and milk; (3) use of milk or sugar, or only a small amount of milk; (4) no cold food, or no food; (5) use of boiled water from a new earthen pot; (6) use of a berry (*kondra*), cow urine, or water; and (7) tying one rupee in a cloth around the patient's neck. Since it is estimated that every adult in India has had typhoid, each of these persons has had personal experience with the disease, and a few had seen the members of their family immunized or had received some instruction from a health inspector or a nurse regarding treatment.

The main effort at health education in India has been directed at water-borne diseases, especially cholera. Many villagers realize that an unsafe water supply is related to diseases associated with diarrhea. They also prefer the natural taste of water from a tank even though it may be contaminated to that of adequately chlorinated water. Fuel supplies of coal or wood are so scarce and expensive that there is no facility for boiling water prior to consumption. Dried cow dung cakes are conserved to use as fuel for cooking. During the immediate premonsoon months, available village water supplies often reach such a low reserve that any water may be priceless and a villager will walk several miles each day to fill a small pot.

In contrast with the information on typhoid, which represents the best evidence of health education, following are data on smallpox, a disease from which 35,000 to 50,000 die each year. It is commonly believed that the following factors may cause smallpox: (1) evil spirit, (2) cold bath during a febrile illness driving heat inside the body that later comes out in blisters (especially if the stars are unfavorable), (3) heat accumulated in the body, and (4) disorder of the blood. Common methods of treatment and believed cures for smallpox are: (1) ashes applied to blisters, (2) bricks heated in a fire, with cow urine dropped on the bricks so that vapors will touch patient's body, (3) neem leaves hung at door to protect children from shadow of unclean persons, (4) vows to make an offering to village goddess for recovery, (5) the offering of songs of praise by women to the Goddess of Surgaon and praying for relief of patient, and

(6) five handfuls of grain left by the mother of the patient in a specified position at the outskirts of the village every day for five days.

Vaccination is not mandatory in all areas, and inadequate vital statistics, which are the responsibility of a village watchman, the *chowkadar*, allow many births to go unregistered. Mortality rates from smallpox range as high as 40%, although an effort is made to vaccinate every child before the age of 6 months and again at 6 years.

The ideas concerning the possible causes of smallpox that were given by the villagers indicate the greater ease with which basic ideas as to the transmission of waterborne disease may be understood, in contrast with diseases transmitted by respiratory routes or direct contact. The list of therapeutic measures emphasizes the role of the gods in curing disease. The indigenous medical practitioners emphasize this and place themselves as the intermediary between the gods and the patient. Cow urine is highly regarded because of the holy position of the cow. Devout persons may drink it for a purifying effect; it is used therapeutically in liver disease, and in typhoid it is used as a local compress.

NATIVE HEALTH PERSONNEL

India has only about 15,000 physicians for its 375 million people, but there are about 200,000 indigenous medical practitioners trained in the Ayurvedic or Unani systems of medicine. Since practically all of the medical care in rural India rests in the hands of these native practitioners, they are an essential force to be reckoned with in any program to bring public health and hygiene to Indian villages. The *vaid*, or *hakim*, receives four years of training in a program that includes anatomy, physiology, and pharmacy. Diseases are considered as conflicts between two or three humors, and diagnosis is based upon history and a physical examination that emphasizes inspection and careful palpation of the pulse. Ointments, brews, and pellets prepared from native herbs are often the basis of treatment. The native practitioners, however, are becoming increasingly acquainted with methods of Western medicine. Naturally, indigenous practitioners are on the defensive regarding their prestige in the village, and their methods of medical care are refined to insure their position as an intermediary for the gods, who, in cases of doubtful outcome, are responsible for any dire results. The native practitioner, be he a *vaid* of India or a *curanderos* of Central or South America, is a potent force who can assure success or failure in any program of medical progress. The naturopathic methods of these practitioners have a great appeal even to many literate members of their country.

In rural areas, midwifery still represents the only effort toward any program of maternal or child health. India's representative of midwifery, the illiterate hereditary *dais*, attends the delivery, often smears the cord with cow dung, and makes a few postpartum visits. She is unable to handle any complications of parturition. Her fee for a boy baby is usually two rupees (44 cents) and for a girl, one rupee (22 cents). Similar untrained midwives exist in other countries of Southeast Asia, and in the Philippines there is a group of Herculean men who are called in cases of labor complicated by contracted pelvis and, by dint of violent force applied to the abdominal wall, are expected to eject a living child. India's women, and to a lesser degree those of other countries in Southeastern Asia, are reluctant to accept medical care from men. Consequently the midwife is often the only existing means of medical communication with the family, and since, as in the United States of America, the wife rules supreme in the home, the midwife may be a key figure in determining the success or failure of health programs.

DISEASE PROBLEMS

In developing programs to raise living standards in underdeveloped areas, the first attack is on diseases that have the greatest importance in economic productivity. Any discussion of disease is limited, however, by the paucity of vital statistics. Malaria probably affects about 35% of the population, so that many Indians are malnourished, anemic, and feverish persons who are unable to perform a full day's work. Further, disease incidence rises sharply about one month after the monsoon season begins, a time when agricultural activity, especially rice growing, should be at its height. It has been estimated that the person with malaria loses about 10% of his potential income to the disease through purchase of nostrums and actual lost employment. Even when he is employed, however, his effectiveness is low.

In several provinces, vigorous programs of malaria control have resulted in a striking reduction in the incidence of the disease. Residual DDT spraying of dwellings every two months from July to November has been the sole measure that Dr. D. K. Viswanathan has used with success in Bombay province. In most areas this procedure alone will control malaria in one year. In particularly bad pockets, however, as many as three years will be required. A nationwide program for malaria control is now under development.

Statistics show that the incidence of intestinal helminthic disease, especially ancylostomiasis (hookworm disease), ranges as high as 90% in village areas. Actually the Indian villager has good habits of personal hygiene considering available resources. His major defect is a lack of understanding of what he may do to others. Bodily excreta are abhorrent to him. He rebels at the thought of visiting a latrine where others have deposited their feces. Indeed, it is necessary to use latrines in which previously deposited feces are invisible. Accordingly, the villager goes to the field and finds a fresh spot where he may deposit his feces, and, since practically all villagers go barefoot, ancylostomiasis is easily transmitted. Amebic and bacillary dysentery are prevalent in India and, as with malaria, are at their highest incidence in the monsoon season. Although there are no figures available regarding the economic impact of these disorders, ancylostomiasis and dysentery are the cause of a considerable reduction in the economic effectiveness of villagers in Southeast Asia.

Any program to increase food production should be geared to existing information regarding nutritional status. In southern India, the diet of villagers consists chiefly of rice. In central India, millet and rice are the major dietary constituents, and in northern India wheat is the primary foodstuff. It is interesting to note that the average height and weight are greatest in areas where the diet is representative of northern India. In the southern areas where rice is the chief component of the diet, many villagers refuse to eat eggs because of the possibility that they may contain an embryo. Fish serves as an additional protein source in some less devout areas, although the villagers will usually sell the fish to gain money rather than ingest it to gain much-needed calories. In West Bengal, efforts are being made to encourage stocking of fish in tanks and ponds and to encourage the cultivation of *dal*, a vegetable that has a high protein content.

Beriberi is not as prevalent as in the past, but undoubtedly many subclinical states of vitamin B deficiency exist. Probably the Indian custom of parboiling rice before it is milled produces a greater fixation of thiamin in the grain so that it is not easily absorbed by the body. Osteomalacia and rickets are frequently seen in northern India. It is said that osteomalacia was commoner when there was a larger Moslem population in India and purdah was practiced by them. Tuberculosis is prevalent, and it is estimated that about 500,000 persons die from this disease each year. A vigorous campaign of BCG vaccination is now being conducted by the government of India. India continues to be a great reservoir of tropical and exotic disease. There are probably one million persons in India that are suffering from leprosy, predominantly the tuberculid form of the disease with extensive nerve involvement and resultant crippling deformities. Despite expanding programs of vaccination, smallpox continues to be a significant disease, with a mortality rate as high as 40%. Foci of cholera lie dormant in many areas, to break with explosive violence at the time of religious festivals or other similar events when many thousands gather. Although antibiotics appear to reduce the number of vibriones in the stool, the clinical course of the disease is not appreciably altered, and glucose and saline given intravenously continued to be the prevailing methods of treatment. Information is badly needed on the epidemiology of cholera.

The continuing shortage of facilities, funds, and teaching personnel to expand medical education to a point where the actual needs for physicians are filled poses a serious problem at a time when programs for raising living standards place increased demands on personnel. Accordingly, programs have been established such as the cooperative venture between the government of India and the Ford Foundation to train persons who can serve as the health counterpart of the agricultural extension agent in the United States. The diversity and enormity of the village health problems in India suggest that it is most desirable to concentrate personnel on one or two key problems from which a breakthrough may occur. Disease associated with an unsafe water supply and inadequate sewage disposal probably have the greatest single economic impact, and accordingly these health extension workers will concentrate their energies on personal and environmental sanitation and hygiene. Again, in view of the enormity of the problem, the greatest returns should accrue from a program emphasizing prevention, with only enough activity in the curative field to excite and hold the villagers' interest. This, of course, primarily implies educational programs, and, in view of the strong cultural implications in the health field in countries such as India, a preliminary evaluation of existing health attitudes, the role of the indigenous practitioner or midwife, factionalism, and group conflicts are all questions that must be considered. In addition, existing health personnel who are working in the village programs will be given orientation courses that will be intended to alert them in regard to techniques of health education and the diverse problems that are implicit in working in a country such as India.

This is only one segment of the broad program that has been developed in India. New medical colleges have been established, and existing institutions have been strengthened. Schools for public health nurses are in operation, and the training of other paramedical personnel has been expanded. Primary and secondary health units for preventive and curative work are developing in several provinces. It is evident that the pangs of hunger and disease and the web of poverty go hand in hand. A nation cannot have economic health without physical health, and the interrelation of these two factors is of increasing importance in the world today.

CLINICAL NOTES

SUBACUTE BACTERIAL ENDOCARDITIS IN PENICILLIN-SENSITIVE PATIENT

C. A. Beck, M.D., Chicago

Chlorprophenpyridamine (Chlor-Trimeton) maleate and other antihistaminics have recently been used to decrease the percentage of all kinds of allergic reactions, including that to penicillin.[1] Because of this, we used chlorprophenpyridamine maleate in a patient with subacute bacterial endocarditis who had a severe sensitivity to penicillin, a rare combination and in addition an excellent test for the drug.

A penicillin-sensitive patient with a serious illness presents a dilemma in therapy. Only four courses are possible: (*a*) administration of penicillin regardless of risk, (*b*) attempted desensitization to penicillin, (*c*) use of other antibiotics with less likelihood of a successful outcome, or (*d*) administration of penicillin along with a substance such as an antihistamine or cortisone in an effort to obviate reactions. The following case history

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From the Department of Medicine, Michael Reese Hospital.

The Chlor-Trimeton was supplied by the clinical research division of Schering Corporation through George Babcock Jr., M.D.

Dr. Albert Milzer and Miss Helen McLean, Department of Microbiology, and Drs. Jacob Schlichter, Jacob Meyer, and Paul Joseph, and Rachmael Levine, Department of Medicine, Michael Reese Hospital, assisted in this study.

[1] Simon, S. W.: Hypo-Allergic Penicillin, Ann. Allergy **8:** 194, 1950. Simon, S. W.: Hypoallergic Penicillin: Histadyl-Penicillin, ibid **9:** 665, 1951. Simon, S. W.: Hypoallergic Penicillin: Chlor-Trimeton-Penicillin, ibid. **10:** 187, 1952. Sanger, M. D., and others: Scientific Exhibit, Eighth Annual Congress of American College of Allergists, Pittsburgh (April) 1952. Jenkins, C. M.: Small Dosage, Injectable Antihistamine (Chlor-Trimeton Maleate Injectable) in Treatment of Allergic Diseases, Ann. Allergy **11:** 96, 1953.

of a patient with subacute bacterial endocarditis is illustrative of the failure of alternate *c*, and the success of alternate *d*. Desensitization was considered, but a recent experience of another physician whose patient suffered anaphylactic shock and death during this procedure militated against its use in this instance.

REPORT OF A CASE

The patient, a 49-year-old woman, was first admitted on March 18, 1952, with complaints of lassitude, weakness, malaise, and afternoon fever experienced since recovering from pneumonitis 10 weeks previously. Her history was suggestive of several attacks of rheumatic fever in childhood and adolescence. The history also revealed "heart disease" claimed since pregnancy 19 years previous to examination, intermittent ankle edema, and moderate dyspnea on exertion during the preceding several years. Blood pressure was 154/86 mm. Hg, pulse 92, respirations 16, temperature 101-103 F. There were crepitant rales in the posterior left lung field, cardiac enlargement to the anterior axillary line 5th costal interspace, grade 2 presystolic murmur at apex, grade 2 rough systolic murmur in aortic area, loud heart sounds, liver nontender and palpable 4 cm. below right costal margin, 2+ pitting edema of ankles, sedimentation rate 50, corrected 43, and electrocardiogram pattern essentially normal. The patient was placed on bed rest with a salt-free diet, and numerous diagnostic tests were performed. The antistreptolysin titer was 100-R-8. The result of the Weltmann serum test was 4. The temperature became normal, rales and edema disappeared, and the patient was discharged after four days. Because of this short course, however, the provisional diagnosis was transient bacteremia, rheumatic heart disease (inactive), and grade 2 cardiac decompensation. A blood culture, reported after discharge, showed Streptococcus faecalis, which was considered noncontributory in this case.

On May 13, 1952, after three weeks' therapy at home with chlortetracycline (aureomycin), 250 mg. four times a day, for a low grade fever, the patient was readmitted to the hospital. Physical findings were similar to those at the time of the first admission, but the systolic murmur was now grade 3 and the spleen firm, nontender, and palpable 1 cm. below left costal margin. Occasional extrasystoles were noted. A bigeminal rhythm, which began on May 14, changed to trigeminal on May 20 and reverted to normal on May 24. The second heart sound was then noted to be loud and slapping over the entire precordium. The sedimentation rates were 58, corrected 41, and 63, corrected 48. Blood cultures obtained prior to and after admission yielded an alpha prime Str. viridans. The diagnosis of subacute bacterial endocarditis could then be made. In vitro tests showed sensitivity to oxytetracycline (Terramycin), 0.0625 mcg. per cubic centimeter, to chlortetracycline, 0.0625 mcg. per cubic centimeter, and to penicillin, 0.005 Oxford units. The patient gave a history of a severe reaction including urticaria, pruritus, fever, and vesicular dermatitis of a month's duration following penicillin therapy 18 months previously. Skin tests with procaine penicillin, penicillin O, and Compenamine (l-ephenamine penicillin G) gave strongly positive results. In view of the positive skin tests and a history of reaction to penicillin, it was deemed advisable to institute therapy with other antibiotics. Oxytetracycline, 500 mg. every six hours, was given orally for nine days without appreciable change in the condition of the patient. In vitro studies then showed increased resistance of the organism to both oxytetracycline and chlortetracycline (0.5 mcg.). Chloramphenicol (Chloromycetin), 500 mg. every six hours, was administered from May 24 to June 23. The condition of the patient gradually improved, temperature became normal, blood culture became negative, and the patient was discharged in satisfactory condition. During therapy with chloramphenicol a moderate decrease in erythrocytes and hemoglobin was noted.

The patient was admitted for the third time on July 9, 1952. Physical findings were similar to those at the time of the previous admission except that clubbing of the fingers and petechiae of mucous membranes and of the hands were observed. Therapy consisted of three 10 cc. units of immune globulin on July 9, oxytetracycline orally, 500 mg. four times a day, and 500 mg. intravenously two times a day for 16 days from July 9 to July 25. Again the patient improved only to relapse when therapy was discontinued. Erythromycin became available on Aug. 20, and the patient received 500 mg. every six hours (orally) until Oct. 2. Studies showed that growth of organism was inhibited by 0.02 mcg. of erythromycin. The sedimentation rates were 48, corrected 44; 44, corrected 34; 53, corrected 32; 55, corrected 38; 56, corrected 40; 45, corrected 34; and 52, corrected 37. The blood culture became negative on Sept. 2 and remained so during the balance of the patient's hospital stay. The murmurs faded, temperature became normal, and it appeared the patient was cured. The patient had a slight cold for two days at the conclusion of therapy. She was discharged Oct. 8 with a normal temperature and was feeling well. Blood cultures were made at the time of discharge and again on Oct. 13. In each instance a Streptococcus with the same biochemical reactions as the organism originally isolated was obtained.

The patient was admitted for the fourth time on Oct. 18 with physical findings similar to those of previous admissions. Failure of four other antibiotics and the serious condition of the patient prompted us to employ penicillin in spite of the prior hypersensitivity reaction and the strongly positive skin tests to several types of this antibiotic. The reports of Simon and Sanger to the effect that combining an antihistamine with penicillin reduces the incidence of penicillin reactions prompted me to try administering chlorprophenpyridamine maleate injection, 100 mg. per cubic centimeter, in conjunction with the antibiotic. On Oct. 19, 10 mg. (0.1 cc.) of the antihistamine was given 30 minutes prior to injection of 600,000 units of procaine penicillin. Since no reaction was observed, the dose of penicillin was increased to 600,000 units two times a day on Oct. 20 (with 10 mg. of chlorprophenpyridamine maleate just before each injection). Penicillin dosage was further increased to 2 million units every six hours (with 5 mg. of chlorprophenpyridamine maleate in the same syringe) on Oct. 22. No reactions occurred. Therapy with carinamide, 1 gm. three times a day, was begun on Oct. 24. A mild pruritus and flat pink rash developed on Oct. 27. This was dissimilar to the patient's previous penicillin reaction and was readily controlled by Caladryl ointment (diphenhydramine in a calamine base). The dose of carinamide was decreased to 0.5 gm. three times a day, because of nausea. Penicillin dosage was reduced to one million units four times a day, with 10 mg. of the antihistamine in the same syringe. Treatment was continued in this fashion for 30 days. The sedimentation rates were 55, corrected 40; 50, corrected 38; and 46, corrected 38. The last sedimentation rate was taken two to four days before the patient was discharged. The blood culture became negative early in the course of therapy and has remained negative on repeated examination up to the time of this report (June, 1953). The condition of the patient improved rapidly, and she was discharged as cured.

SUMMARY AND CONCLUSIONS

There are two ways to study the value of a drug. One is the statistical approach, with large groups in the general population. The other method is its use in severe cases, which brings out the limits of usefulness. A patient with subacute bacterial endocarditis, sensitive to various penicillin preparations, was successfully treated without reaction by a combination of penicillin, one million units, and chlorprophenpyridamine (Chlor-Trimeton) maleate, 10 mg. per injection. This result is significant since other antibiotics, to which the patient was not sensitive, failed to achieve the desired clinical response and because of the severity of the previous penicillin reaction.

1525 E. 53rd St. (15).

FATAL APLASTIC ANEMIA FOLLOWING QUINACRINE THERAPY IN CHRONIC DISCOID LUPUS ERYTHEMATOSUS

Leo G. Parmer, M.D., Ph.D.
and
Arthur Sawitsky, M.D., New York

The use of quinacrine (Atabrine) has declined considerably since the introduction of newer antimalarials. However, recent new indications for the drug have revived its use. Page[1] reported on the treatment in 18 cases of chronic discoid lupus erythematosus with quinacrine with striking results. Only one patient failed to improve considerably, and in a few cases all the lesions completely disappeared within six weeks of the start of treatment. In two patients associated changes of rheumatoid arthritis disappeared as the skin condition improved. This latter finding was extended by Freedman and Bach,[2] who treated 23 arthritic patients with quinacrine, of whom all but one were said to have improved. Pain subsided, soft tissue swelling decreased, and movement became free and more vigorous. Six to 10 weeks of therapy were necessary before all signs of joint inflammation disappeared. In this series only one side-reaction, a macular eruption, developed in a patient who had received 0.8 gm. daily for four days.

The successful results in rheumatoid arthritis were repeated in a series reported from Norway.[3] Eleven patients with the disease were treated for from six weeks to five months. All of the patients noted a decrease in their pain, and in five of the patients objective signs of improvement were noted. As an incidental finding, two patients with bronchial asthma who had been admitted repeatedly to the hospital in status asthmaticus were treated for six months with quinacrine with freedom from symptoms and signs of asthma.

In this country, the promising results of quinacrine in discoid lupus erythematosus were confirmed in a series of 30 patients by Sawicky and associates.[4] In 21 cases there was prompt and definite improvement despite the fact that the patients had received intensive therapy previously with other medicaments with varying results. In six cases the condition was reported as having cleared completely, and only three patients failed to respond satisfactorily or relapsed during therapy or soon after its cessation. Similar results by Cramer and Lewis [5] with six patients and Wells [6] with six patients have been reported. These favorable results in the treatment of discoid lupus, and subsequently the favorable response in both rheumatoid arthritis and bronchial asthma, make it likely that the drug will again be used more extensively. The following report deals with a patient in whom fatal aplastic anemia developed after she received quinacrine for the treatment of chronic discoid lupus erythematosus.

REPORT OF A CASE

The patient was a 36-year-old Negro woman, a teacher, who was admitted to the skin and cancer unit of the New York University Hospital on July 25, 1950, with a complaint of a rash over the cheeks of five or six months' duration. A tentative diagnosis of discoid lupus erythematosus was made, and the patient was treated with 2% sulfur ointment and vitamin B complex. Several months later, the patient returned to the clinic without improvement and 3% Vioform cream (5-chloro-7-iodo-8-hydroxyquinoline) was prescribed. On July 24, 1952, the patient again returned, complaining of a recurrence of the lesion and the appearance of new ones on the upper eyelids. The lesions were described as oval and very scaly, with a red papular base. A punch biopsy specimen was taken at that time and a report was made as follows: "There is a dense cellular reaction in the upper cutis. The reaction is also periadnexal; interspersed among the cells are deposits of pigment which, for the most part, seem to be intracellular. The cells are almost entirely small round cells. The overlying epidermis is thinned and flattened. There is a liquefaction necrosis of the basal cell layer. Hyper-granulosis and hyper-keratosis are present. The Van Wiegert stain was not diagnostic." The diagnosis was discoid lupus erythematosus.

On Aug. 27, 1952, oral administration of 1 gm. of quinacrine was started twice a day. Two weeks later the skin lesions appeared to be better, but five weeks after the beginning of quinacrine therapy the patient began to complain of a general "achiness," which disappeared the next week. However, at the time the patient said that she "felt better," the sedimentation rate was 22 mm. per hour, and the blood count revealed a hemoglobin level of 13 gm. per 100 cc., a red blood cell count of 4,600,000 per cubic millimeter and a white blood cell count of 3,800, with 65% polymorphonuclears and 38% lymphocytes. Quinacrine therapy was continued.

Eight weeks after therapy was started, the lesions appeared less raised and less active and vitamin B_{12} injections were instituted. After 10 weeks of therapy the lesions were described as being red, and parenteral vitamin B_{12} therapy was continued. After this visit the patient did not return to the clinic.

Four months after institution of quinacrine therapy, the patient was admitted to Queens General Hospital with complaints of bleeding. Three weeks prior to admission, she noted the onset of an upper respiratory infection with a cough productive of whitish material and occasionally streaked with blood. Two weeks prior to admission she developed chills and fever to 103 F. Her physician said she had "jaundice and pneumonia," and treated her with penicillin and chlortetracycline (aureomycin). The temperature continued to spike to 105 F for a week, and five days prior to admission she noted the onset of vaginal bleeding despite the fact that she had had no menses since a spontaneous menopause two years previously. On the morning of admission the patient collapsed at home and was subsequently hospitalized. Her past history revealed that she had an attack of rheumatic fever in 1937 associated with joint pains. She had a tonsillectomy following that episode. She had occasional slight exertional dyspnea but no ankle edema or orthopnea. The patient denied venereal disease. She did not smoke or drink.

Physical Examination.—On admission the temperature was 101.6 F, the pulse 112, the respiration rate 20, and the blood pressure 110/78 mm. Hg. The patient was well nourished, well developed, and in no acute distress. Over both zygomatic arches and both upper lids, there was a scaly, darkly pigmented macular eruption. There was questionable icterus of the scleras; the pupils reacted to light and accommodation, and the conjunctivas were pale. There were numerous purpuric areas over the palate, pharynx, and tongue. The neck was supple, and the trachea was in the midline. The thyroid gland

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From the Medical Service (Dr. Wagner) of the Queens General Hospital, Jamaica, N. Y., and the Medical Division of the United States Food and Drug Administration (Dr. Sawitsky).

Dr. Rudolph Baer of the New York University Skin and Cancer Unit made the patient's early record available for use in preparation of this report.

[1] Page, F.: Treatment of Lupus Erythematosus with Mepacrine, Lancet **261**: 755-758 (Oct. 27) 1951.

[2] Freedman, A., and Bach, F.: Mepacrine and Rheumatoid Arthritis, Lancet **263**:321 (Aug. 16) 1952.

[3] Engeset, A.: Mepacrine and Rheumatoid Arthritis, Letters to the Editor, Lancet **263**: 537 (Sept. 13) 1952.

[4] Sawicky, H. H., and others: Therapeutic Assays of the Skin and Cancer Unit of the New York University Hospital: Assay VII: Quinacrine Hydrochloride (Atabrine Hydrochloride) for Chronic Discoid Lupus Erythematosus, J. Invest. Dermat. **19**: 397-404 (Dec.) 1952.

[5] Cramer, J. A., and Lewis, G. M.: Atabrine in the Treatment of Discoid Lupus Erythematosus, J. Invest. Dermat. **19**: 393-395 (Dec.) 1952.

[6] Wells, G. C.: Treatment of Chronic Discoid Lupus Erythematosus with Atabrine, J. Invest. Dermat. **19**: 405-407 (Dec.) 1952.

was not palpable. There were a few small cervical nodes papable with no other enlargement. The heart was not enlarged, the rhythm was regular, and there was a grade 1 systolic murmur at the apex. The lungs were clear to percussion and auscultation. The abdomen revealed marked tenderness in the right upper quadrant; the liver, kidney, and spleen were not palpable. The reflexes were hyperactive but bilaterally equal. No pathological reflexes were elicited. Pelvic examination revealed blood at the vaginal orifice; the cervix was smooth and the adnexae were not palpable. Blood was found on the glove after rectal examination.

Laboratory Data.—Results of blood studies on admission were as follows: The hemoglobin level was 8 gm. per 100 cc. and the red blood cell count 2 million per cubic millimeter. The white blood cell count was 1,400, with 15% polymorphonuclears and 85% lymphocytes. The hematocrit value was 25, with reticulocytes 2%, and there were less than 20,000 platelets. The bleeding time was 60 minutes and the coagulation time 40 minutes, with no clot retraction for three days. The corrected erythrocyte sedimentation rate was 52 mm. per hour (Wintrobe), and the prothrombin time 82% of normal. Other laboratory data were negative results of direct and indirect Coombs' tests, a blood sugar level of 107 mg. per 100 cc., a urea nitrogen level of 13 mg. per 100 cc., an alkaline phosphatase level of 3.1 units, and an icterus index of 5. There was no cephalin flocculation, and the total protein level was 7.2 gm. per 100 cc., with 3.8 gm. of albumin and 3.4 gm. of globulin. Three successive L.E. cell preparations were negative. Results of other blood studies are shown in table 1. The urine contained albumin (2+) and was grossly bloody.

Table 2 shows the results of bone marrow counts. No megakaryocytes or platelets were seen on either smear. Marked hypoplasia of all elements with a relative lymphocytosis was noted. Rouleaux formation was marked in the iliac marrow. There was no evidence of leukemia on either smear. Mast cells were seen in all preparations. This finding lends support to the diagnosis of a secondary aplastic anemia.[7]

Hospital Course.—The patient's temperature continued to be elevated for the first five days after admission, but it returned to normal with antibiotic therapy. Vitamin K, 100 mg. of corticotropin daily, and repeated blood transfusions were given. Despite therapy, the patient continued to bleed from the mouth and genitourinary tract. The sputum remained blood streaked. On the eighth day of hospitalization the patient suddenly became aphasic and incontinent, and sank into a semistuporous state. There was left-sided weakness with bilateral Hoffman signs and nuchal rigidity; no Babinski sign was elicited. A diagnosis of subarachnoid hemorrhage was made. The temperature rose to 106.6 F. Bleeding from all orifices increased and, despite transfusion of 500 cc. of fresh blood, the patient died. Permission for autopsy was not granted.

COMMENT

There have been several reports dealing with the development of aplastic anemia due to quinacrine therapy in armed forces personnel in the Southwest Pacific. These were summarized by Custer, who reported a total of 57 fatal cases.[8] Only two other cases have been found in which fatal aplastic anemia occurred after quinacrine therapy. One of these was in an African native [9] and the other in a Costa Rican.[10] The former report merely stated that the disease developed after administration of therapeutic doses of quinacrine; in the latter case it occurred after a prolonged suppressive regimen.

One of the questions that has arisen is why no cases of aplastic anemia occurred among troops taking quinacrine in areas other than the Southwest Pacific. Custer explains this on the basis that 0.1 gm. of quinacrine was given six or seven times a week continuously in the malarial area of the Southwest Pacific as compared to 0.1 gm. three times a week only during the hot months in other areas, such as the Mediterranean. Furthermore, strict adherence to the quinacrine regimen was not complete in the latter area.

It may be significant that about 50% of the Army cases of aplastic anemia occurred in patients who had the quinacrine dermatitis complex prior to the development of the blood dyscrasia. In our case, a chronic skin disease, although of a different type, was present. Patients with chronic discoid lupus may be unusually sensitive to drugs that suppress the bone marrow function. Robinson and associates [11] described leukopenia as a complication of chloramphenicol therapy of discoid lupus.

The mechanism of quinacrine aplastic anemia was investigated by one of us,[12] when it was found that the drug entered the bone marrow in high concentration. However, most of the drug was found in the granulocytic rather than the red cell series. This obviously would not substantiate a direct toxic effect of quinacrine on all the elements of the marrow such as occurs in benzol poisoning. Furthermore, quinacrine also concentrated in lymphocytes, and these are not affected in aplastic anemia. One of us (L. P.) concluded that there was no correlation between the concentration of quinacrine in the various blood cells and the cells affected in aplastic anemia. Because of this finding and because of the low incidence of aplastic anemia among the millions of service men who had taken the drug, it was presumed that the dyscrasia was a result of an idiosyncrasy to the drug.

TABLE 1.—*Results of Peripheral Blood Studies*

	Sept. 18	Dec. 8	Dec. 11	Dec. 12
Hemoglobin, gm. per 100 cc......	13	8	9	6.5
Red blood cell count............	4,600,000	2,000,000	.....	1,800,000
White blood cell count.........	3,800	1,400	1,500	600
Polymorphonuclears, %........	62	15	20	4
Lymphocytes, %.......	38	85	80	95
Eosinophils, %.........	....	....	.....	1
Platelets	....	Less than 20,000	None on smear	None on smear

TABLE 2.—*Results of Bone Marrow Studies*

	Sternum Dec. 8	Right Iliac Crest Dec. 12
Blast forms...........................	0.5%	0.0%
Neutrophilic myelocytes...............	2.0	2.0
Neutrophilic nonsegmented cells.......	.....	0.25
Neutrophilic segmented cells..........	.....	3.25
Eosinophilic segmented cells..........	.....	1.0
Lymphocytes	73.25	84.25
Plasma cells.........................	18.00	6.75
Reticuloendothelial cells...............	5.00	1.25
Mast cells.............................	0.25	0.25
Erythroblasts	0.25	.....
Normoblasts	0.75	1.0

SUMMARY

A case of aplastic anemia occurring after ingestion of quinacrine (Atabrine) is described. It is the first such case to be reported as occurring in the United States and followed treatment for chronic discoid lupus erythematosus. There is evidence that such a toxic response may be greater in patients with certain chronic skin diseases than in the general population. As a precaution, repeated blood cell counts should be done to determine if further administration of the drug is dangerous.

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[7] Fadem, R. S.: Tissue Mast Cells in Human Bone Marrow, Blood 6: 614-630 (July) 1951.

[8] Custer, R. P.: Aplastic Anemia in Soldiers Treated with Atabrine (Quinacrine), Am. J. M. Sc. 212: 211-224 (Aug.) 1946.

[9] Bruce-Chwatt, L. J., and Bruce-Chwatt, J. M.: Antimalarial Drugs in West Africa, with Particular Reference to Proguanil; Results of Survey in Nigeria, Brit. M. J. 2: 7-14 (July 1) 1950.

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Room 1200, 201 Varick St. (14).

COUNCIL ON PHARMACY AND CHEMISTRY

NEW AND NONOFFICIAL REMEDIES

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application.

R. T. Stormont, M.D., *Secretary.*

Absorbable Gelatin Film.—Gelfilm (Upjohn).—A sterile, nonantigenic, absorbable, water-insoluble, gelatin film.—Absorbable gelatin film is obtained by drying on plates at constant temperature and humidity a specially prepared gelatin-formaldehyde solution. It is subsequently sterilized by dry heat at 146-149° for 12 hours.

Actions and Uses.—Absorbable gelatin film is used as an aid in the surgical closure and repair of defects in such membranes as the dura mater and the pleura. It is nonporous and has no hemostatic action. In the dry state absorbable gelatin film has the appearance and stiffness of cellophane of equivalent thickness, but when moistened, assumes a rubbery consistency and can be fitted to rounded, irregular surfaces. Its rate of absorption after implantation ranges from one to six months, depending upon the size of the film employed and the tissue in which it is implanted. Dural implants are less rapidly absorbed than muscle implants. When it is employed as a dural substitute, at least 70 days are required for absorption. This allows sufficient time for healing of the arachnoid layer and formation of new dura, which requires only a few weeks. It also helps to prevent the development of adhesions between the regenerating dura and the arachnoid. Absorbable gelatin film is nonantigenic and does not produce undue inflammatory reaction or other undesirable sequelae.

Dosage.—Absorbable gelatin film, which is approximately 0.075 mm. thick, is applied in the form of sheets. Prior to use the film is soaked in isotonic sodium chloride solution and then cut to the desired shape. For covering dural defects it is applied to the surface of the brain; the edges are tucked beneath the dura, and the wound is closed in the usual manner. The moist film may be sutured loosely to the dura, but this must be done carefully to avoid tearing the material. For covering pleural defects a similar technique is followed, except that it is preferable to anchor the film in place by means of small interrupted silk sutures.

Absorbable gelatin film may be stored indefinitely. To avoid contamination, sterile packages should not be opened until the contents are ready to be applied. When necessary, the film can be resterilized at 140° C for four hours.

Tests and Standards.—

Physical Properties: Absorbable gelatin film is a light yellow, transparent, brittle sheet 0.076-0.228 mm. thick, with a very slight, bouillon-like odor and taste. It is practically insoluble in acetic acid and water. It assumes a rubbery consistency after being in water for a few minutes.

Identity Tests: Transfer to a 250 ml. beaker about 1 gm. of absorbable gelatin film, add 100 ml. of water, boil for 5 min., and filter while hot. To 1 ml. of cool filtrate add 1 ml. of trinitrophenol T.S.: a turbidity is produced. To another 1 ml. portion of the cool filtrate add 1 ml. of tannic acid T.S.: a turbidity is produced.

Purity Tests: Char about 1 gm. of absorbable gelatin film, accurately weighed, cool the residue, add 1 ml. of sulfuric acid, heat cautiously until evolution of sulfur trioxide ceases, ignite, cool, and weigh: the residue does not exceed 1.0%.

Assay: (Digestibility) Place about a 50 mg. piece of absorbable gelatin film in water until it becomes rubbery, lift from the water, and remove excess water between pieces of filter paper. Place the wetted sample in a 150 ml. glass-stoppered Erlenmeyer flask which contains 100 ml. of a 1% solution of pepsin-N.F. in 0.1 *N* hydrochloric acid previously warmed to 37°. Maintain at 37°, and agitate gently and continuously until digestion is complete. The average digestion time is not less than 4 hours.

The Upjohn Company, Kalamazoo, Mich.

Gelfilm: Box of six absorbable gelatin films in individual sterile envelopes; single films are approximately 100 mm. by 125 mm. by 0.16 mm. U. S. trademark 561,532.

Antihemophilic Plasma (Human).—Irradiated antihemophilic plasma (human) is the sterile plasma prepared in a manner to prevent destruction of the relatively labile active fraction by pooling plasma obtained by centrifuging whole blood from approximately 20 donors. After sterilization by ultraviolet irradiation, the product is dried from a frozen state under high vacuum. The product meets the requirements of the National Institutes of Health of the United States Public Health Service.

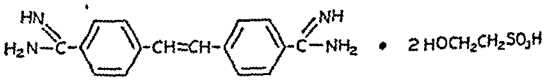
Actions and Uses.—Antihemophilic plasma (human) is human plasma processed so as to prevent denaturation of the antihemophilic globulin component present in freshly prepared plasma. It is administered for the temporary reduction of the dysfunction of the hemostatic mechanism in hemophilia.

Dosage.—Antihemophilic plasma (human) is administered intravenously. It is employed as a solution, prepared by restoration of a freeze-dried preparation equivalent to either 60 o 120 cc. of citrated liquid plasma with either 25 to 50 or 5 to 100 cc. of water for injection, depending on the volume t be used. Each 60 cc. equivalent of citrated liquid plasma, whic is equivalent to 50 cc. of original plasma or 100 cc. of circulating whole blood, will maintain a normal clotting time fo several hours to two days. This dose is usually sufficient fo children; twice this amount may be required for adults. Th maintenance dosage is dependent upon the weight and respons of the patient. Injections should be repeated so as to maintain normal clotting time; repeated doses do not lose their effectiveness.

Hyland Laboratories, Los Angeles.

Dried Antihemophilic Plasma (Human): 50 cc. and 100 cc. bottles of plasma plus anticoagulant dried from the frozen state, packaged with 50 cc. and 100 cc. of 0.1% citric acid diluent, respectively.

Stilbamidine Isethionate.—$C_{16}H_{16}N_4.C_4H_{12}O_8S_2$.—M. W. 516.59. —4,4′-Stilbenedicarboxamidine di (β-hydroxyethanesulfonate).—The structural formula of *stilbamidine isethionate may be represented as follows:*



Actions and Uses.—Stilbamidine isethionate, a water-soluble salt of an aromatic diamidine base, exhibits chemotherapeutic properties useful in the treatment of certain serious protozoan and systemic fungal infections. Although stilbamidine, like certain other diamidines, also inhibits other types of microorganisms as well as tumor cells, its use in the treatment of other infections or in neoplastic diseases has not been established. Until more conclusive evidence becomes available, use of the drug should be restricted to the treatment of early African trypanosomiasis (except in cases with significant spinal fluid changes) and kala-azar (except in mild leishmanial infections responsive to pentavalent antimony), especially when antimony therapy is contraindicated because of intercurrent tuberculosis, systemic actinomycosis, and generalized North American blastomycosis. It is not effective in the treatment of Torula infections.

Stilbamidine isethionate is detectable in the blood and urine in relatively high concentrations within a few minutes after either oral administration or parenteral injection of a single maximum tolerated dose. The blood level falls rapidly within 30 minutes, despite differences in the maximum dose tolerated by various routes. A rapid fall in urinary excretion occurs after the first two hours. With daily administration, the amount eliminated tends to remain unchanged regardless of the dosage. Its rapid disappearance from the blood is only partially attributed to urinary excretion. The unusual adsorptive effects of the drug on proteins of the serum, plasma, and other body fluids is believed to account for its rapid disappearance from the blood. Current methods for its detection are not sufficiently accurate to permit definite conclusions concerning its metabolic fate in the body. The amounts fixed in the tissue proteins or viscera have not been determined. Penetration of the meningeal barrier by the drug is poor. Intrathecal administration is not feasible because of its local irritant effect, and intramuscular injection produces local inflammation and pain at the site of administration. Concentrated solutions administered intravenously may produce thrombophlebitis.

During or immediately following intravenous injection, many or all of the following symptoms and reactions have been elicited or observed, approximately in the order of decreasing incidence: fall in blood pressure, rapid, thin pulse, facial flushing, dizziness, salivation, sweating, headache, nausea, vomiting, dyspnea, formication, syncope, lethargy, fecal and urinary incontinence, and edema of the eyelids and face. These side-reactions are usually transitory and disappear within 10 to 30 minutes. They are less severe with intramuscular injection and slow intravenous drip. In kala-azar, a modified Herxheimer reaction may occur within six hours following the first injection. The occurrence of a unique neuropathic syndrome involving progressive sensory changes in the distribution of the trigeminal nerve is a late toxic manifestation attributed to stilbamidine. Two to five months after a course of therapy, patients may gradually observe paresthesia, anesthesia, hypalgesia, and numbness (usually confined to the face). Sensibility to light touch is decreased, but usually pain, temperature, and pressure sense remain intact. The same findings may apply to the neck and waist. The incidence of occurrence of these late neuropathic effects is considered to be above 50%. The symptoms often disappear slowly, but they may persist indefinitely. The neurotoxic effects of the drug have been sufficiently troublesome to influence physicians against using it for treatment of trypanosomiasis and leishmaniasis.

Freshly prepared solutions of the drug administered in therapeutic doses have not been associated with hepatic or renal injuries, which formerly occurred following the use of ready-made solutions exposed to ultraviolet light. However, both hepatic and renal function should be determined prior to therapy as stilbamidine is contraindicated in hepatic or renal dysfunction. Partial deterioration of the drug is produced by the action of ultraviolet light on the unsaturated stilbene linkage. Solutions exposed to heat or light contain toxic deterioration products, but such deterioration does not occur when the drug is stored in dry form away from heat and light. Freshly prepared solutions should be similarly protected. Following injection, patients should be warned against excessive exposure to sunlight on the premise that stilbamidine remaining in the skin may be altered and the toxic products thus formed may initiate selective nerve injury.

Dosage.—Stilbamidine isethionate is administered intravenously by continuous, slow drip. A freshly prepared solution of the dose to be used, dissolved in about 200 cc. of either 5% dextrose in water for injection or isotonic sodium chloride solution, is infused over a period of two hours. Slow infusion is essential to avoid a fall in blood pressure. The solution should be protected from light by covering the container with black paper or a heavy towel.

The suggested average adult dose is 150 mg., repeated every 24 to 48 hours for a course of about 15 injections. It is advisable to initiate therapy with a 50 mg. dose, increasing this to 100 mg. for the second dose, and to 150 mg. for the third dose. It is suggested that the patient be placed on a low protein, low purine-type diet, which is thought to avoid certain antidimidine effects of proteins high in arginine. The dosage and frequency of administration of the drug should be altered when necessary to meet the requirements of the individual patient. The physician should become familiar with the reactions and side-effects expected from the use of stilbamidine.

Tests and Standards.—

Physical Properties: Stilbamidine isethionate is a white, odorless, crystalline powder that slowly darkens on heating above 250° and melts with decomposition at 325-335°. It is freely soluble in water and practically insoluble in ether. The amount which dissolves in alcohol to form 100 ml. of solution is about 0.3 gm. Stilbamidine isethionate is stable in air, but is decomposed by light. The pH of a 1% solution is 5.0-7.0.

Identity Tests: Dissolve about 50 mg. of stilbamidine isethionate in 2 ml. of water in a test tube, incline the tube, and slowly add 1 ml. of sulfuric acid down the wall: a white precipitate forms and a light yellow ring forms at the junction of the liquids.

Dissolve about 50 mg. of stilbamidine isethionate in 20 ml. of water: the solution exhibits an intense blue fluorescence under ultraviolet light.

Dissolve about 50 mg. of stilbamidine isethionate in 10 ml. of water. Make the solution alkaline with ammonia T.S. Filter the white precipitate which forms, wash with water, and dry at 105°: the product melts with decomposition at 270-280°.

A 0.0005% solution, prepared as described in the spectrophotometric assay for stilbamidine isethionate, exhibits an ultraviolet absorption maximum at about 328 mμ [specific absorbancy, E(1%,1 cm.), about 866] and a minimum at about 258 mμ, with an inflection point at about 225 mμ.

Purity Tests: Dry about 1 gm. of stilbamidine isethionate, accurately weighed, at 105° for four hours: the loss in weight does not exceed 1%.

Char about 1 gm. of stilbamidine isethionate, accurately weighed, cool the residue, add 1 ml. of sulfuric acid, heat cautiously until the evolution of sulfur trioxide ceases, ignite, cool, and weigh: the residue does not exceed 0.1%. Reserve the residue for the heavy metals determination.

Dissolve the residue from the ash determination by heating in 2 ml. of diluted acetic acid and by washing the dish thoroughly with 10 ml. of hot water. Cool the combined solution and washings, and run a *U.S.P. heavy metals test:* the amount of heavy metals does not exceed 10 ppm.

Assay: (Stilbamidine Isethionate) Prepare a 0.0005% solution of stilbamidine isethionate as follows. Transfer to a 100 ml. low actinic volumetric flask 0.1 gm. of dry stilbamidine isethionate, accurately weighed, fill to the mark with water, and mix. Transfer to a second 100 ml. low actinic volumetric flask 5 ml. of this solution, fill to the mark with water, and mix. Transfer to a third 100 ml. low actinic volumetric flask 10 ml. of this last solution, fill to the mark with water, and mix. Spectrophotometrically determine the absorbancy in a 1 cm. quartz cell at 328 mμ, using water as a blank. The concentration of stilbamidine isethionate in the solution in mg./ml. ≃ absorbancy ÷ 86.6. The amount of stilbamidine isethionate is not less than 95.0 nor more than 105.0%.

Dosage Forms of Stilbamidine Isethionate

POWDER. The powder responds to the identity tests and assay for the active ingredient in the monograph for stilbamidine isethionate.

The Wm. S. Merrell Company, Cincinnati.

Powder Stilbamidine Isethionate: 150 mg. ampuls.

Sulfacetamide (See New and Nonofficial Remedies 1953, p. 99).

Chemo Puro Manufacturing Corporation, Long Island City, N. Y.

Powder Sulfacetamide: Bulk; for manufacturing use.

Sulfadiazine-U.S.P. (See New and Nonofficial Remedies 1953, p. 100).

The Bowman Bros. Drug Company, Canton, Ohio.

Hexett Tablets Sulfadiazine: 65 mg.

Thrombin-U.S.P. (See New and Nonofficial Remedies 1953, p. 228).

The Upjohn Company, Kalamazoo, Mich.

Thrombin Topical (Bovine Origin): 30 cc. vials. Each vial contains 5,000 units of dried thrombin.

Tuaminoheptane Sulfate (See New and Nonofficial Remedies 1953, p. 210).

Chemo Puro Manufacturing Corporation, Long Island City, N. Y.

Powder Tuaminoheptane Sulfate: Bulk; for manufacturing use.

CORRECTION

Cyclopentolate Hydrochloride.—In THE JOURNAL, Oct. 31, 1953, page 801, under the heading New Generic and Brand Names Recognized by the Council, the generic term cyclopentolate was erroneously spelled cyclopentylate.

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EXCESSIVE VITAMIN A AND CONGENITAL ABNORMALITIES

Experimental studies have shown that a lack of vitamin A in the maternal diet during gestation results in widespread structural abnormalities in the young. Pregnant rats maintained on a vitamin A-deficient regimen have been reported to have fewer live young and an increased incidence of fetal reabsorption. Their young show an increased proportion of congenital defects in the visual, cardiovascular, or genitourinary systems.[1] Contrarywise, it has recently been found [2] that excessive intake of vitamin A also caused congenital defects to appear in offspring of mothers that received this supplement. One hundred fifty female rats were studied after being mated. One hundred received orally 35,000 I.U. of vitamin A per day from the 2nd, 3rd, or 4th to 16th day post coitus, while the 50 control animals received no extra vitamin. All animals were killed at, or near, term and the young examined for gross congenital defects.

In the control group, 44 of the 50 rats produced litters with a total of 410 apparently normal young being formed. Thus, 88% of the animals of the control group had successful pregnancies. On the other hand, of the 100 rats mated that received excess amounts of vitamin A, only 10 carried young to the end of the study (10% successful pregnancies). Thus, 58% of the animals whose mothers received excessive amounts of vitamin A showed congenital defects, while no congenital defects were observed in the control group. Cranial deformities were found constantly in the young of the test group. In this deformity there was an extrusion of the brain to the external surfaces of the head, with a membranous film covering the exposed brain surface. In addition to the skull deformity, other congenital defects were also noted sporadically, such as harelip, cleft palate, and defects in eye development.

These studies indicate that ingestion of excessive amounts of vitamin A by pregnant animals as well as severe restriction of this dietary factor produces severely deliterious developmental effects, an observation which suggests that there is an optimal range of vitamin A dosage just as there is for other dietary essentials.

BRUCELLOSIS

In the last two years notable advances have been made in our knowledge of brucellosis, and this has been presented in a technical report from the World Health Organization.[1] Infection with Brucella abortus may remain inapparent or subclinical or it may become manifest a an acute febrile disease of limited duration or a long continued disease with periodic exacerbations. A positive culture is the only sure criterion of the presence of the disease. This may be from the blood, bone marrow, a recently enlarged lymph node, the cerebrospinal fluid urine, or discharge from an abscess. Other diagnostic aids are (1) the sero-agglutination test, which when carried out with a suitable antigen and satisfactory technique almost always gives a significant positive result in the presence of active infection (positive reactions of low titer should be rechecked); (2) the complement-fixation test, which, although used by some, is believed by the Expert Committee to have no practical value; (3) the opsonocytophagic test, which the committee also regards as unsuitable for diagnostic use despite the fact that it has its adherents; (4) the intradermal test, which when positive unfortunately denotes only that the patient has had previous contact with Br. abortus but does not indicate active infection; and (5) a normal leukocyte count or leukopenia with or without a relative lymphocytosis in a febrile patient, which while not pathognomonic is nevertheless suggestive of brucellosis and should lead to the taking of cultures.

Of all the possible sources of culture material Spink and his co-workers [2] believe that sternal marrow yields the greatest percentage of positive results. The special culture mediums now available are considered superior to guinea pig inoculation. These authors find the agglutination test of special value in patients who have been empirically treated with antibiotics with the result that cultures are negative, but they warn that there is a wide variation in the reliability of antigens and that false positive results may occur as a result of cross agglutination in patients with tularemia or patients who have been immunized against cholera.

Elsewhere in this issue Spink and Thompson (page 1162) report two cases of human infection with Br.

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[1] Warkany, J., and Nelson, R. C.: The Appearance of Skeletal Abnormalities in the Offspring of Rats Reared on a Deficient Diet, Science 92:383 (Oct.) 1940. Wilson, J. G., and Barch, S.: Fetal Death and Maldevelopment Resulting from Maternal Vitamin A Deficiency in the Rat, Proc. Soc. Exper. Biol. & Med. 72:687 (Dec.) 1949.

[2] Cohlan, S. Q.: Excessive Intake of Vitamin A as a Cause of Congenital Anomalies in the Rat, Science 117:535 (May) 1953.

[1] Joint FAO/WHO Expert Committee on Brucellosis: Second Report, Technical Report Series, no. 67, Geneva, Switzerland, FAO and WHO, May, 1953.

[2] Spink, W. W.; McCullough, N. B.; Hutchings, L. M., and Mingle, C. K.: Diagnostic Criteria for Human Brucellosis: Report No. 2 of the National Research Council, Committee on Public Health Aspects of Brucellosis, J. A. M. A. 149:805 (June 28) 1952.

abortus strain 19, a relatively innocuous strain used for vaccinating cattle. Both patients were veterinarians engaged in giving vaccinations. The authors present the first definitive proof that human infections can occur as a result of invasion by strain 19, although one previously reported case in a veterinarian was probably from this source. They therefore issue a warning to veterinarians that strain 19 vaccine contains a viable pathogen and that it should be handled only by qualified persons, preferably veterinarians, and with the knowledge that accidental contact with it may result in active brucellosis.

DRAMA IN STATISTICS

When persons speak of the dryness of statistics they are, of course, generally expressing their boredom rather than voicing the conclusion from a well-considered appraisal. In reality, the amount of human success, suffering, failure, and happiness that is packed into some statistical reports is, in the literal sense of the word, tremendous: It should make one tremble.

A convenient example is no. 10 of volume 37 of the Special Reports from the National Office of Vital Statistics, dated September 11, 1953. It begins with the sentence, "In 1950, there were 1,452,454 deaths registered in the United States . . . excluding the armed forces overseas." If every death is thought of as the final defeat of some individual struggling for existence, as the ultimate frustration of teams of physicians and nurses, and as a crisis in the adjustment of surviving families and close friends, the number 1,452,454 takes on an impressive significance that staggers the imagination. And consider what that phrase, "excluding the armed forces overseas," means to fathers, mothers, and wives!

The report continues, "The death rates for most states in 1950 were the lowest on record, continuing the downward trend that has characterized mortality rates since 1900." This sentence must fill the heart of every research worker with hope akin to fear. For how much of this progress, which seems too wonderful to be true, should we credit Domagk, the protagonist of sulfonamides, Fleming, the pioneer in antibiotics, and the many other earnest toilers in medical research laboratories? But especially, one asks himself, how long can this rate of progress be kept up? Will it all be undone by some gigantic folly of mankind, such as another suicidal war?

The statistics show that the states of the Union vary widely in their death rates. "The highest death rates recorded for the residents of any state in 1950 were 11.4 per 1,000 population for New Hampshire and 11.1 for Missouri; the lowest were 7.2 for Utah and 7.7 for North Carolina." The difference between 11.4 and 7.2 is striking even to a nonmathematician; translated into terms of human life it means that whoever discovers the reason for this difference between Utah and New Hampshire will make a contribution to preventive medicine. Part of the explanation of the difference to be sure, lies in a remarkable map on page 248 of the report. It shows that the population of New Hampshire is elderly compared with the youthful population of Utah. The segregation of old from young in the United States is one of the peculiar consequences of the denial of work opportunities after a fixed retirement age.

Another peculiar consequence is seen in the relative frequency of chronic disease, which especially involves older persons. Other important factors must complicate this problem, however. Malignant neoplasms are more frequent in some states than in others, with a ratio of 18 to 7 between the highest and lowest. Cardiovascular disease in some states exceeds that in some others, with a ratio of 67 to 24. There are other factors besides age, and whoever succeeds in identifying them will do humanity an immense service.

Accidents, according to the report, are one of the leading causes of death. Death rates for motor-vehicle accidents ranged from 11.2 per 100,000 population for residents of Rhode Island to 50.6 for Nevada. The total of motor-vehicle accident deaths for the U. S. in 1950 was 34,763. No Carthaginian or Aztec idol ever demanded the death and mutilation of so many human sacrifices as does that demon, the collective driver of the American automobile. Psychiatrists should consider the advisability of personifying this evil genius of our day, giving him a name, picturing him with fangs and claws, and setting up images of him to serve as hate-objects. No images, however horrible, could outdo the stark statistical reality.

The tendency to segregate old from young was noted above; it is strikingly shown in the map and tables of this report. In one state the median age of the population is 23.6 years; in another it is actually 33.7. If smaller geographic units are compared, even more striking disparities can be discovered. Recently two suburbanites working in Chicago compared the death rates of their communities; one was nearly three times the other. The one contained several large homes for old persons; the other was a one-class suburb filled with successful young couples with children in school. Moreover, it was evident that, when the children finished school, many of the families moved back into city apartments. Said one of the suburbanites, whimsically paraphrasing a famous remark of General MacArthur's, "We of Winnetka never die; we only move away."

Thus statistics even mark the passing of the old family homestead. Aging parents no longer greet a returning son with the words "You're as welcome as the flowers in May" as they show him to the bedroom he had in his boyhood. There is no spare bedroom, and he has to sleep with his feet in the entrance-hall and his head in the kitchenette. Stastistics are not dry; all this comedy and tragedy is there, implicit in the numbers. The numbers are necessary, and the diligent statistician deserves our gratitude.

THE PRESIDENT'S PAGE

A MONTHLY MESSAGE

In traveling about the country these past few months I have found evidence of a great lack of knowledge of medical economic affairs within the profession. This situation must be corrected if we are to carry on the fine traditions of medicine. And, because I believe it is essential that every physician have a knowledge of the problems faced by officers of the American Medical Association and its House of Delegates, I try to bring you each month some message that is pertinent and of compelling interest to the medical profession.

The subject of this page, for example, should be of utmost concern to every doctor in the nation. It deals with the provision of medical care for military dependents. Last April the Secretary of Defense appointed the Citizens Advisory Commission on Medical Care of Dependents of Military Personnel. Its chairman was Harold G. Moulton. The commission was instructed to study the problem and return with a report in June. Despite the great complexities of such a broad subject, an investigation of sorts was completed within the allotted time and a report was made.

The commission had posed for itself a series of 12 questions. These were: (*a*) Should dependents be provided medical care as a matter of right? (*b*) What are the advantages of having dependent care provided by the military establishment? (*c*) Would morale requirements be met simply by an increase in pay? (*d*) How does the present system operate? (*e*) What is the source of disagreement between civilian medical agencies and the military services? (*f*) Should the care program be extended to all eligible dependents? (*g*) How should dependent medical care be financed? (*h*) What safeguards are necessary? (*i*) What types of illnesses should be included? (*j*) What military personnel should be eligible? (*k*) What types of dependents should be eligible? (*l*) What changes in budgetary procedure are necessary?

The commission concluded that dependent medical care should be supplied by the military organization and that pay increases or insurance coverage for dependents, as suggested by private physicians, should not be initiated. Also the commission recommended that in areas of hospital congestion Veterans Administration and Public Health Service facilities should be utilized for dependents. Furthermore, it was recommended that dependents living within 25 miles of military establishments should be *required* to first seek aid at the military base, except in emergencies!

The commission proposed that if military facilities are not available dependents should be given certificates of eligibility to be presented to civilian doctors or agencies. Payment would be made by the appropriate military department. As a restraint on excessive demands for medical attention, the commission recommended that the patient be charged the first $10 for each visit and 10% of the total bill for hospital and medical care. These restraints, you understand, would apply only in cases in which military hospital and medical care would be unobtainable or when dependents live more than 25 miles from a military establishment. Among other recommendations made by the commission, including definitions of illnesses to be included and excluded and restrictions on dental treatment, is a proposal that a separate budget be prepared by the Department of Defense for the care of military dependents.

Although the American Medical Association has n as yet, taken any official action with respect to the co mission's report, I have a few personal comments make on it. It appears that, although an attempt w made by the Secretary of Defense to appoint a comm sion of persons having no connection with the arm forces, the underlying theory of this a proach was defeated by the selection a military staff. It is not surprising, the fore, to find that the report approac the problem in question entirely fr the viewpoint of the armed forces, wi little or no regard for the recommen tions of interested civilian organizatio

To mention a few of the commissio omissions: There was no considerati given to the basic justification for dra ing physicians to supply medical care civilians, no study made of the possib ity that this program poses a threat federal control over medicine, and study made of the feasibility of tra ferring medical care for military d pendents into civilian channels. The la ter move would permit a free choice physicians and certainly would sa the government considerable mone It would seem that the major emphasis of the Moult commission was on justification and expansion of t present system, rather than on the consideration of a d ferent approach and possible curtailment.

Assuming that the continuation, or even expansion, the dependent medical care program is desirable, it is e tremely difficult to understand why the provision of su care in military facilities is necessary. It has always be the A. M. A.'s belief that civilian facilities, if availab and adequate, should be utilized first and that the use military facilities should be restricted to emergency sit ations and remote areas. This philosophy will be com pletely reversed if the recommendations of the Moulto commission are accepted. This is a subject that I pe sonally feel warrants the serious consideration of th newly appointed "Hoover commission."

I regret that because of space limitations I was able t give you only a partial analysis of the Moulton commis sion report. But I am told that a more detailed analysi will be published in THE JOURNAL in the near futur Please give it your most careful consideration when appears.

EDWARD J. MCCORMICK, M.D., Toledo, Ohio

ORGANIZATION SECTION

DEVELOPMENT OF UNIFORMITY IN MEMBERSHIP REGULATIONS BETWEEN CONSTITUENT ASSOCIATIONS AND THE A. M. A.

Prepared by Frank V. Cargill, Director, and Rose Tracy, Department of Records and Circulation.

The secretary of a midwestern constituent medical association recently urged that a concerted effort be made to develop uniform membership regulations and terminology between the various constituent associations and the American Medical Association as an important development of the program of intraprofessional relations. The need for a movement toward uniformity is apparent from the accompanying table, which correlates the classes of membership in the constituent associations with membership in the A. M. A. A survey made of other regulations covering transfers of membership, delinquency policies, billing procedures, and benefits and privileges of members shows further points of divergence.

Variety of Membership Terms

The table on page 1180 shows the 32 terms used by constituent associations to designate membership and the relationship of these types of membership to the two principal types of membership in the A. M. A.—active membership and associate membership. The A. M. A. also has three other types of membership—affiliate, honorary, and service—but these types are not dependent on membership in the constituent association.

In the table, a star indicates types of membership that permit a member to vote and hold office in his constituent association; such members are eligible to Active membership in the A. M. A. A cross on the chart indicates types of membership that do not permit a member to vote and/or hold office in his constituent association; such members are eligible only to Associate membership in the A. M. A.

There is not only a bewildering array in the table of nearly similar classifications, such as "retired" and "inactive," "military," "government service," "service," and "veteran," "emeritus," "life," "50-year club," "gold star," "senior," "honor," and "honorary," but also the privileges associated with such classifications vary from state to state. Most of the "life" members, as shown in column 15 of the table, can hold Active membership in the A. M. A.—except the "life" members in two states. In four states the "emeritus" classification entitles members to Active membership in the A. M. A., but in four other states "emeritus" classifications entitle members only to associate membership in the A. M. A. Even the use of the term "associate membership" lacks uniformity, with the table indicating in column 7 that one state gives the privileges of active membership to its associate members, entitling them to vote and hold office.

Further confusion arises from the constituent associations' use of "affiliate," "honorary," and "service" classifications, which entitle members to either active or associate membership in the A. M. A., but which have no relationship to affiliate, honorary, or service membership in the A. M. A. itself. The latter types of A. M. A. membership are not based on membership in the constituent associations, and are intended for physicians not otherwise eligible to A. M. A. membership through the constituent associations. It is conceded that much of the confusion concerning types of members has been a direct result of the changes made in the membership structure of the A. M. A. itself since 1950. Many physicians who were formerly Fellows of the A. M. A. still do not realize that this classification was discontinued by action of the House of Delegates at the June, 1952, Chicago Meeting, and that the present classification of active member includes the privileges formerly associated with fellowship.

Effect on Apportionment of Delegates

With representation in the A. M. A. House of Delegates based on the constituent association's number of active A. M. A. members, the type of membership held becomes extremely important in determining the member's liability for the payment of A. M. A. dues or his qualification for waiver of dues. To some extent, the A. M. A. policy of granting exemption from the payment of A. M. A. dues to active members of constituent associations who have been wholly or partially exempted from the payment of state and local dues during postgraduate training within five years of graduation, temporary military service, retirement, financial hardship or disability, or after the age of 70, may have spurred the creation of such classifications in the constituent associations as "retired," "inactive," "intern," "residency," "government service," and "military service." If so, the development has been a movement in the opposite direction needed.

Rather than create new classifications of membership to provide for such exemptions, it might have been better to have amended the constitution and by-laws of the constituent associations in such a way that the member retained the privileges of his active type of membership but was excused from the payment of dues for various reasons given by the A. M. A. In some states, the only types of membership available to physicians who are in postgraduate training, military service, or have retired are classifications that do not carry with them the right to vote and hold office. Therefore, such physicians are eligible only to associate membership in the A. M. A. and cannot be counted in the apportionment of delegates to the A. M. A. House of Delegates.

Standardization of Classifications in Constituent Associations

As shown in the table, the number of membership classifications in the constituent associations vary from a single classification in two states to eight classifications in one state. Fourteen states have only one type of membership eligible to active A. M. A. membership, and one state has six such classifications; 10 states have only one type of membership eligible to associate A. M. A. membership, and three have the maximum of five such classifications. The average number of membership classifications among the constituent associations is four (with an average of two classifications eligible to active A. M. A. membership and two eligible to associate A. M. A. membership), as shown in the table. Perhaps the first move toward simplification of membership terminology might be made in standardizing the names of four membership classifications, into one of which each member of a constituent association could fit without being subjected to changes in privileges or assessments.

From the standpoint of clarifying eligibility to A. M. A. membership, it is suggested that (1) the term "active member" be adopted by the constituent associations to designate the dues-paying member who has the right to vote and hold office; that (2) the term "emeritus member" be used for the member who pays no dues, or pays reduced dues, but retains the right to vote and hold office; that (3) the term "associate member" then be reserved by the constituent association for dues-paying members who do not have the right to vote and hold office; and (4) possibly the term "affiliate member" be used to designate the remaining non-dues-paying classifications, such as nonresident members, and distinguished out-of-state physicians, who cannot vote and hold office. The physicians in groups 3 and 4 would be eligible only to associate membership in the A. M. A.

Obviously, the foregoing proposal is not so easy to adopt as it sounds. Some of the classifications have been in use for decades and have meaningful connotations to the medical profession in the area. Nevertheless, it is hoped that each constituent association will carefully consider this proposal in the light of providing the greatest good to the greatest number and actively participate in the movement to standardize membership terminology. Actually, the problem goes down to the

Membership in Constituent Associations as Related to A. M. A. Membership

	1 Active	2 Active-Junior	3 Junior	4 Members	5 Regular	6 Fellows	7 Associate	8 Associate-Junior	9 Associate-Student	10 Associate-Special	11 Affiliate	12 Honorary Members	13 Honorary Fellows	14 Emeritus	15 Life	16 50 Yr. Club	17 Gold Star	18 Senior	19 Honor	20 Past Service	21 Veteran	22 Retired	23 Inactive	24 Student	25 Residency	26 Intern	27 Government Service	28 Military	29 Nonresident	30 Scientific	31 Service	32 Leave of Absence	
Alabama	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Alabama
Arizona ▲	★	..	..	..	..	..	+	..	..	..	+	+	..	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Arizona ▲
Arkansas	★	..	..	..	..	..	..	..	..	..	★	..	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Arkansas
California ▲	★	..	..	..	..	..	+	..	..	..	+	+	..	..	★[1]	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	California ▲
Colorado ▲	★	★	..	..	..	..	+	+	+	+	..	..	..	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Colorado ▲
Connecticut	..	..	..	★	..	..	+	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	Connecticut
Delaware	★	..	..	..	..	..	..	..	..	..	..	★	..	..	..	..	..	..	..	..	..	★	..	..	..	..	..	★	..	..	..	..	Delaware
Dist. of Col.	★	..	..	..	..	..	+	..	..	..	+	+	..	..	★	..	..	..	..	..	..	..	..	..	+	+	..	..	..	..	..	..	Dist. of Col.
Florida	..	..	..	★	..	..	..	..	..	..	..	+	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Florida
Georgia	★	..	..	..	..	..	+	..	..	..	..	+	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	+[4]	..	..	Georgia
Idaho	..	..	..	★	..	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Idaho
Illinois ▲	..	..	..	★	..	..	..	..	..	..	..	..	..	★	..	..	..	..	..	★	..	★	..	..	★	..	★	..	..	..	..	..	Illinois ▲
Indiana	★	..	..	..	..	..	+[2]	..	..	..	..	+	..	..	..	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Indiana
Iowa	..	..	..	★	..	..	..	..	..	..	..	..	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Iowa
Kansas	..	..	..	★	..	..	..	..	..	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	+	+	Kansas
Kentucky	★	..	..	..	..	..	+	..	..	..	..	+	..	+	..	..	..	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	Kentucky
Louisiana	★	..	..	..	..	..	+	..	..	..	..	+[3]	..	..	..	..	..	..	..	..	..	..	+[3]	..	..	★	..	★	..	..	..	..	Louisiana
Maine	★	..	+	..	..	..	..	..	..	..	+	★	..	..	..	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Maine
Maryland	★	..	..	..	..	..	+	..	..	..	..	+	..	+[3]	..	..	★	..	..	..	..	..	..	..	..	..	..	..	+	..	..	..	Maryland
Massachusetts	..	..	..	..	..	★	+	..	..	..	..	+	..	..	..	..	..	★	..	..	..	..	..	..	..	..	..	..	+	..	..	..	Massachusetts
Michigan	★	..	..	..	..	..	+	..	..	..	..	+	..	★	★	..	..	..	..	..	..	+	..	..	..	..	..	★	+[5]	..	..	..	Michigan
Minnesota	★	..	..	..	..	..	+[6]	..	..	..	+	+	..	..	★	..	..	..	..	..	..	..	..	..	★	..	..	..	..	..	★	..	Minnesota
Mississippi ▲	..	..	..	★	..	..	+	..	..	..	..	★	..	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Mississippi ▲
Missouri	★	..	★	..	..	..	+	..	..	..	..	..	..	..	..	..	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	Missouri
Montana	★	..	..	..	..	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	..	Montana
Nebraska ▲	★	..	..	..	..	..	+	..	..	..	..	★[7]	..	..	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Nebraska ▲
Nevada ▲	★	..	..	..	..	..	..	..	..	..	..	+	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Nevada ▲
New Hampshire	..	..	..	★	..	..	..	..	..	..	..	+	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	New Hampshire
New Jersey	..	..	..	★	..	..	+	..	..	..	..	+	..	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	New Jersey
New Mexico	..	..	..	..	★	..	..	..	..	..	..	+	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	New Mexico
New York	★	..	+	..	..	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	New York
North Carolina	..	..	..	..	..	★	..	..	..	..	★	+	★	..	..	..	..	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	North Carolina
North Dakota	..	..	..	★	..	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	North Dakota
Ohio	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Ohio
Oklahoma ▲	★	..	+	..	..	..	+	..	..	..	..	+[3]	..	..	+[3]	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	+	..	Oklahoma ▲
Oregon	★	..	+[3]	..	..	..	+	..	..	..	..	+	..	..	★	..	..	..	..	..	..	..	..	..	..	+	..	..	..	..	..	..	Oregon
Pennsylvania	★	..	..	..	..	..	+	..	..	..	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Pennsylvania
Rhode Island	..	..	..	..	..	★	..	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	+	..	..	..	Rhode Island
South Carolina	..	..	+	★	..	..	..	..	..	..	..	★	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	South Carolina
South Dakota	★	..	..	..	..	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	South Dakota
Tennessee	★	..	..	..	..	..	+	..	..	..	..	+	..	..	..	..	..	..	..	..	★	..	..	+	..	..	..	..	..	..	..	..	Tennessee
Texas	★	..	..	..	..	..	..	..	..	..	..	★	..	★	..	..	..	..	..	..	..	..	★	..	+	+	..	+	..	..	..	..	Texas
Utah	★	..	..	..	..	..	..	..	..	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Utah
Vermont	★	..	..	..	..	..	..	..	..	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	★	..	Vermont
Virginia	★	..	..	..	..	..	+	..	..	..	..	★	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Virginia
Washington	★	..	..	..	..	..	..	..	..	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Washington
West Virginia	★	..	..	..	..	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	West Virginia
Wisconsin ▲	..	..	..	★	..	..	★	..	..	..	★	★	..	..	★	..	..	..	..	..	..	..	..	..	+	..	..	+	..	..	..	..	Wisconsin ▲
Wyoming	★	..	..	..	..	..	..	..	..	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	★	..	..	..	..	..	Wyoming
Alaska	★	..	..	..	..	..	+	..	..	..	..	+	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Alaska
Hawaii	★	..	..	..	..	..	+	..	..	..	..	+	..	..	★	..	..	..	..	..	..	+	..	..	..	..	..	..	..	..	..	..	Hawaii
Canal Zone	★	+	..	..	..	..	+	..	..	..	..	+	..	..	★	..	..	..	..	..	..	..	..	..	..	..	..	..	+[3]	..	..	..	Canal Zone
Puerto Rico	★	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Puerto Rico

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★ = can vote and hold office in state society (entitled to Active Membership in American Medical Association).

+ = cannot vote and hold office in state society (entitled to Associate Membership in American Medical Association).

▲ A. M. A. Membership is mandatory.

1. May vote and hold office if they maintain membership in county society.
2. All dentists.
3. Can vote, but cannot hold office in state society.
4. Available to colored physicians in state.
5. Membership only in county society; does not confer membership in state society.
6. Associate Members can vote and hold office if they have had 30 years' service in state association; Associate Members cannot vote and hold office if they have had less than 30 years' service in state association.
7. When given to nonmembers, does not include right to vote and hold office.

county level, because the component societies are the sole judges of membership, and, in many cases, they have created types of membership that have no standing in the constituent association and therefore no standing in the A. M. A.

Uniform Treatment of Transfers in Membership

Efforts are also needed to bring about uniformity in the treatment of transfers from one constituent association to another, in establishing delinquency dates, in billing for A. M. A. dues, and in handling exemptions from the payment of such dues. The physician moving his practice from the jurisdiction of one constituent association to another will find, oftener than not, that he will have to pay dues in the new association as well as in the old—only 25 of the constituent associations accept transfers of paid members from other associations without further payment of dues for the year—the other 27 associations require payment of dues in the new state as well as in the old state.

In most states, too, the newly located physician discovers that action on his application for membership can be taken only after a waiting period. The period varies with the component societies' regulations, the physician sometimes thereafter being immediately eligible to membership in the constituent association. In answer to a question on this subject, a number of associations stated that applicants for membership might have to wait 30 to 60 days for acceptance, while other associations indicated that the wait might be six months, one year, or even two years.

The transfer of membership thus becomes a perplexing problem for the physician who wishes to retain active membership in the A. M. A. but cannot promptly obtain membership through the component and constituent societies in the area to which he has moved. The problem, complicated by the fact that many component societies do not meet monthly, especially during the summer, is one that can be worked out only by the constituent association and its component societies.

Delinquency Dates in the Payment of Dues

Of a similar type is the problem of establishing a more nearly uniform date on which a member of the constituent association is regarded as delinquent in the payment of dues. The dates now used vary from Dec. 5 preceding the year for which dues are payable, to two years following the Jan. 1 on which payable. Six associations require payment on or before Jan. 1; 32 set dates from Feb. 1 to June 1; 3 societies have a delinquency date of July 1; 8 give the physician the full year in which to pay; and one gives two years before declaring the member delinquent.

The variation in dates in the constituent association adds further complication to the collection of A. M. A. dues. In nine states, a physician is required to hold membership in the A. M. A. if he wishes to hold membership in the constituent association. In these states, the date of delinquency does precede the date of delinquency specified in the bylaws of the A. M. A.; even in these states, however, the physician may not be officially dropped from membership until several months later. In many of the other states, the delinquent member's name is not removed from the membership roster until the end of the year; in a few states, his name is removed from the roster during the first month of the current year.

Considerable criticism could be made, it is admitted, of the present policy of the A. M. A., which has a theoretical delinquency date of June 1. Because there have been so many changes in the membership structure, action has been delayed as long as possible to give the physicians an opportunity to clear their payments through the constituent associations before their names had to be taken off the A. M. A. membership roster. Physicians have often delayed payment of dues because of misunderstanding or confusion, and rather than take these names off the roster in a summary manner, we have withheld action and frequently written three or four letters in order to clarify their membership status.

Collection of A. M. A. Dues

The constituent associations have also set up varying procedures to handle the collection of A. M. A. membership dues. In most states, dues are collected through the component societies, but in 12 states they are billed by the constituent associations direct to the member, although, in several of these states, the *state* dues are collected by the component societies. Even when A. M. A. dues are billed by the constituent association, they are, in four states, not billed until at least 30 days after dues in the constituent association have been billed. There are advantages in each method of collection; but, from the standpoint of avoiding duplication of effort (both in billing and sending a remittance) it would seem desirable, whenever possible, to incorporate in a single bill the annual membership dues of component society, constituent association, and the A. M. A., or at least to mail such bills at one time.

Confusion Over Exemption Policies

One further area in which greater uniformity should be achieved is in the regulations governing the exemption from payment of membership dues. The Bylaws of the A. M. A. provide that active members may be excused from the payment of A. M. A. dues for the following reasons: financial hardship or illness, retirement from active practice, postgraduate training within five years of graduation, temporary military service, and past the age of 70. To be eligible to exemption under the first three reasons, the member must also be wholly or partially excused from the payment of dues in the component society and the constituent association.

Misunderstanding concerning exemptions arise especially because of the confusion of service membership with exemption based on temporary military service. This type of exemption is given only to medical officers serving temporarily in the Army, Navy, or Air Force. Since July 1, 1952, by federal law, the United States Public Health Service is no longer a part of the armed forces, and exemptions cannot be granted to physicians in this service. Some constituent associations give a type of non-dues-paying membership to such physicians as well as to physicians in the Veterans Administration, the U. S. Civil Service, the Coast Guard, and other federal agencies, but similar exemptions cannot be given by the A. M. A.

Delay in granting exemption from the payment of dues occurs, with resulting confusion, when requests for exemption are received direct from the component societies on behalf of their members. Official action cannot be taken until the request has been processed by the constituent association. Conversely, when exemptions have been requested by members in correspondence with the A. M. A., there is frequently delay in clearing the exemption because our request to the constituent association is returned with the notation that information has not been received from the component association concerning the member's status.

The policies governing the exemption on the basis of temporary military service vary with respect to dates effective. In some states, the physician entering on active duty pays dues for the current year and his exemption begins the Jan. 1 of the following year; the A. M. A., however, exempts such members for the period beginning Jan. 1 or July 1 following the date of the member's entrance into the service.

A further study of the classifications of membership in the constituent associations, in relation to provisions exempting physicians from the payment of A. M. A. dues is being made, and a chart outlining the information will be available at a future date. Complete uniformity in all phases of membership probably will never be achieved, but a concerted effort on the part of constituent associations and component societies to develop uniform membership regulations and terminology will be a long step forward in advancing intraprofessional relations.

SUMMARY OF FEDERAL MEDICAL LEGISLATION

Prepared by the Washington Office of the American Medical Association.

The 83rd Congress convened Jan. 3, 1953, and adjourned *sine die* Aug. 3, 1953. During this period 10,695 legislative measures were introduced in the Senate and House. All of these were carefully screened for possible medical significance, and 274 were analyzed and reported by the Washington Office of the American Medical Association. This is 24 more than were followed by us in the entire two-year period of the 82nd Congress. The chief legislative measures are briefly summarized below.

Numerically, the commonest measures of interest to the medical profession as such were those dealing with social security and public assistance. Of 56 such measures, none became public law. In the research and aid programs, 37 measures were introduced. None of them became public law, and hearings were held only on the measures that would establish an independent agency for the handicapped. Identical bills to establish such an agency were introduced by Congressmen Hagen (H. R. 2096); Kelley (H. R. 3177); Perkins (H. R. 3188); Celler (H. R. 3291); Doyle (H. R. 3473); and Donohue (H. R. 4262).

Veterans' legislation was again prominent in a variety of proposals taking the form of 34 legislative measures. Only one, H. R. 5636, by Congressman Radwan, became law (Public Law 241), on Aug. 8. This lengthened the presumption of service connection for all types of tuberculosis to three years following military service. Congresswoman Rogers proposed an investigation of the Veterans Administration by the House Veterans Affairs Committee in H. Res. 34. This measure passed the House on March 5, and an appropriation of $50,000 was voted on March 16. Medical deductions in tax computation were proposed in 29 measures. Public hearings held in connection with general tax revisions included testimony supporting legislation of this type. The Teague proposal (H. R. 6015) would establish priorities for admission of patients with non-service-connected cases favoring chronic or long-term ailments.

There were 25 proposals dealing with military medicine. Of these, 10 were incorporated in the amended "Doctor-Draft" act, which became Public Law 84 on June 29. This act as amended was extended two years to July 1, 1955, including an extension of the $100 a month equalization pay for physicians and dentists.

Measures to reorganize the executive department of the government numbered 14; of these, 5 became public law. Congressman Hoffman of Michigan in H. J. Res. 223 made effective within 10 days the reorganization of the Federal Security Agency into the Department of Health, Education, and Welfare. This bill was passed by the House March 18, by the Senate March 30, and became Public Law 13 on April 1, 1953. A new "Hoover" commission on the organization of the executive branch of the government was created in S. 106 by Senator Ferguson, and H. R. 992, a companion bill, by Congressman Brown. These became Public Law 108 on July 10. A Commission on Intergovernmental Relations was created by S. 1514, introduced by Senator Taft and H. R. 4406, introduced by Congressman Halleck. These became Public Law 109 on July 10.

There were 11 proposals having to do with treaty regulations, most of them similar or identical with S. J. Res. 1 by Senator Bricker and 63 other Senators. Public hearings were held over a period of several weeks, and the measure was favorably reported to the Senate by the Judiciary Committee on June 15, but was not put on the Senate calendar and was not referred to a committee. His proposal places less restrictions on the executive branch than does the Bricker proposal.

Drugs and drug addiction were the subject of 10 measures. Six of these concerned factory inspection by federal food and drug agents and became Public Law 217 on Aug. 7. A variety of national health programs was proposed in 10 measures. These included compulsory health insurance, loans to cooperative and nonprofit health insurance associations, federal aid to voluntary health plans, and medical education. There were no hearings or action on any of these bills. An extension of the Hill-Burton Hospital Construction Act until 1957 was proposed by Senators Taft and Hill and by Congressman Harris and became Public Law 151 on July 27. A proposal by Congressman Judd to transfer the administration of Indian hospitals to the Public Health Service was reported favorably by the House Committee on Interior and Insular Affairs on July 17 but was not voted on. Ten measures in all were presented concerning hospitals.

Tax deductions for pension plans were proposed in seven measures. These bills, which would permit tax postponement for the self-employed to assist in the creation of annuities, were discussed at public hearings on Aug. 12 and 13, after the adjournment of Congress. No other action has been taken on these measures. Federal aid for medical education was presented in eight measures. Senator Hunt, in S. 1515, proposed to give authority to certain western states to form an interstate commission for jointly supporting higher education (without federal financial participation). This measure became Public Law 226 on Aug. 8. Among the types of higher education could be medicine and dentistry. Senator Taft in S. 1748 would grant a federal charter for the National Fund for Medical Education. This fund at present is operating under a New York state charter. The American Medical Education Foundation has worked in close cooperation with the national fund. The Taft measure was passed by the Senate on July 6, but the House did not vote on it. None of the other medical education aid bills were discussed in hearings or presented to either House for floor action.

The appropriation ceiling was removed from the National Science Foundation by H. R. 4689 by Congressman Wolverton and the companion bill, S. 977, by Senator Smith of New Jersey and Senator Aiken. These became Public Law 223 on Aug. 8. A House Select Committee to investigate educational and philanthropic foundations was enacted by H. Res. 217 by Congressman Reese. The House voted $50,000 to finance this study. Congresswoman Church in H. R. 116, and Senator Bridges in S. 2245, proposed to prohibit the transportation of fireworks into states where their sale was prohibited by state law. This measure was passed by the House on July 20 and favorably reported by the Senate Judiciary Committee on July 30, but not voted on.

A number of miscellaneous measures were proposed, but no hearings were held and no votes taken on them. They included measures to give aid to health and safety instruction in public schools, to provide for research in child life, to abolish the Bureau of Indian Affairs, to create a U. S. Medical and Dental Academy, to provide federal aid to states for industrial safety, to allow professional education expense deductions from income, to give federal aid to states for ambulance service; to allow freedom to select physician under longshoremen's and harbor workers' compensation act; to establish a joint congressional committee on science. Measures not passed by this first session of the 83rd Congress may be considered when Congress reconvenes and are not dead.

NEW A. M. A. PUBLICATIONS

The A. M. A.'s Committee on Pesticides recently compiled a new list of available publications. The titles include "Accidental Poisoning in Children," "Health Problems of Insecticide Vaporizing and Fumigating Devices," "Toxology in Medical Curriculum," and "Use and Abuse of Generic Names for Pesticides."

MEDICAL NEWS

CALIFORNIA

Ophthalmologic Conference.—The University of California Medical School will hold an ophthalmologic conference Dec. 2-5 at the University of California Medical Center and University Extension Building, 540 Powell St., San Francisco. Dr. Frederick C. Cordes is chairman of the course, and Dr. Peter C. Kronfeld, Chicago, will deliver the eighth Francis I. Proctor lecture, "Delayed Restoration of the Anterior Chamber," during the conference. Arrangements have been made this year so that each group will get one session of animal surgery. The course is open only to graduates of medical schools approved by the A. M. A. Council on Medical Education and Hospitals. The fee is $75.

Pediatric Seminars.—The alumni committee of the Children's Hospital, San Francisco, has announced the following pediatric seminars:

Dec. 5, Surgery and Anesthesia in Childhood, with a discussion on the effects of hospitalization for surgical procedures on the young child.
Jan. 23, 1954, Problems of Prematurity and the Newborn Infant.
March 30, Acute and Chronic Infections and the Choice of Antibiotics in Treatment.
April 24, Childhood Ecology, with a discussion of physical, mental, and emotional growth and development of the young child, the effects of deprivation of maternal care, and the impact of environment on the child.

A fee of $15 will be charged for attendance. Details may be obtained from Dr. Hulda E. Thelander, Children's Hospital, 3700 California St., San Francisco.

CONNECTICUT

Society News.—The New Haven Medical Society will have as speaker, Dec. 2, Dr. Elmer Alpert, chief of clinical research, Merck and Co., Inc., Rahway, N. J., whose subject will be "Present Status of Cortisone and ACTH Therapy."

Hospital Lectures.—The Hartford Hospital announces the following presentations in its Saturday morning 11 o'clock series:

Dec. 5, Averill A. Liebow, New Haven, Clinical Pathological Conference.
Dec. 12, Harold M. Marvin, New Haven, Observations on Aortic Stenosis.
Dec. 19, E. Myles Standish, Hartford, Dermatology (Kodachrome Presentation).

DISTRICT OF COLUMBIA

Federal Grant for Teaching.—The George Washington University School of Medicine, Washington, has received a $25,000 grant from the Public Health Service's National Heart Institute for use in teaching medical students the latest methods in diagnosing and treating heart diseases. The grant will be administered under the direction of Drs. Jack M. Evans, associate clinical professor of medicine, and Albert D. Kistin, associate in medicine.

District Society Honors Theodore Wiprud.—At its annual scientific assembly in the Hotel Statler, Washington, Oct. 7, the Medical Society of the District of Columbia presented a special certificate to Theodore Wiprud, executive director and secretary, "in recognition of his more than twenty-five years of service to American medicine and, in particular, of his fifteen years of steadfast devotion to the medical profession of the District of Columbia; and in further recognition of his accomplishments as an able administrator and author-editor; a teacher; a leader in civic life; friend of physicians; and in special and grateful appreciation of those moral and spiritual qualities that have characterized all his achievements —loyalty, sympathy, wisdom, unselfishness, and unsurpassed honesty." Mr. Wiprud came to the society in 1938 after serving for 10 years as executive secretary of the Medical Society of Milwaukee County in Wisconsin.

FLORIDA

Obstetric and Gynecologic Society.—The midwinter meeting of the Florida Obstetric and Gynecologic Society will be held at the Orange Court Hotel in Orlando, Dec. 5-6. The program will be presented by Dr. Frank R. Lock, professor of obstetrics and gynecology, Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, N. C., Dr. Robert B. Greenblatt, professor of endocrinology, Medical College of Georgia, Augusta, and Dr. W. Nicholson Jones, professor of gynecology, Medical College of Alabama, Birmingham.

GEORGIA

Narcotic Violation.—Dr. William Henry Wall, Blakely, pleaded not guilty in the U. S. District Court at Albany to a violation of the federal narcotic laws and on Oct. 8 was found guilty and sentenced to serve a term of 18 months.

Cardiovascular Research.—Chairs for cardiovascular research at Emory University School of Medicine, Atlanta, and the Medical College of Georgia, Augusta, were recently made possible by identical grants of $12,000 to each school by the Georgia Heart Association. Occupants of the chairs will be full-time faculty members of the medical schools and directors of research laboratories bearing the name of the heart association. The association plans to repeat the grants on an annual basis, and the schools are adding $3,000 to the amount of the grant. The school will have full authority in the selection of the person.

Personal.—Dr. Hal M. Davison, chief of medicine, Georgia Baptist Hospital, Atlanta, has been elected a co-chairman of the Atlanta round table of the National Conference of Christians and Jews. He is a past president of the Fulton County Medical Society.——By invitation of the Scottish Nutrition Society and the Royal College of Physicians of Edinburgh, Dr. Virgil P. Sydenstricker, professor of medicine, Medical College of Georgia, Augusta, presented a paper, "The Impact of Vitamin Research on the Practice of Medicine," at the bicentenary celebration of the publication of Lind's "Treatise of the Scurvy." Dr. Sydenstricker had previously been awarded the King's medal by the United Kingdom. He was also the memorial orator for the Robert Campbell lecture, after which Queen's University of Belfast presented him with a medal. ——Dr. Robert B. Greenblatt, professor of endocrinology, Medical College of Georgia, Augusta, served as moderator of the panel discussion, "Disorders of the Adrenal Cortex," at the postgraduate course in endocrinology and metabolism, sponsored by the University of Minnesota Medical School at Minneapolis from Sept. 28 to Oct. 3.

ILLINOIS

Quarantine for Rabies.—Bloom township was placed under a rabies quarantine by the state department of agriculture after four persons were bitten by rabid dogs early in October. Thorntown township, north of Bloom township and about 16 miles south of Chicago, has been under a similar quarantine since May.

Society News.—At a meeting of the Otolaryngologic Alumni Association of the University of Illinois in Chicago Dr. Albert H. Andrews Jr., clinical assistant professor of bronchoesophagology, was elected president and Dr. Burton J. Soboroff, Chicago, reelected secretary-treasurer. The association presented an engraved silver cigaret box to Dr. Francis L. Lederer, Chicago, named the outstanding teacher during the

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Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

1952-1953 school year. Dr. Cecil D. Riggs, captain in the Medical Corps, U. S. Navy, was presented *in absentia* with a similar award as the outstanding resident during the school year.

Chicago

Dickinson Memorial Lecture.—The second Albert Dickinson memorial lecture, "Nutritional Interrelationships," was given by Conrad Arnold Elvehjem, Ph.D., dean of the Graduate School of the University of Wisconsin, in the Chicago Academy of Sciences, Nov. 20 at 8 p. m.

Dr. Kampmeier Goes to California.—Dr. Otto F. Kampmeier, professor of anatomy, University of Illinois College of Medicine, since 1928, has been appointed head of the department of anatomy at the College of Medical Evangelists, Loma Linda, Calif. Dr. Kampmeier, who came to the University of Illinois as instructor in anatomy in 1918, was made head of the department in 1929. He had been affiliated with the University of Pittsburgh from 1912 to 1918.

Meeting on Poliomyelitis.—At a meeting of the North Side branch of the Chicago Medical Society in the Drake Hotel, Dec. 3 at 8 p. m., "The Changing Front of Research in Poliomyelitis" will be presented by Dr. Hart E. Van Riper, medical director, National Foundation for Infantile Paralysis, Inc., New York, and Dr. Henry W. Kumm, the foundation's director of research. Discussants will be Howard J. Shaughnessy, Ph.D., head of the department of public health, University of Illinois College of Medicine, and deputy director, Illinois Department of Public Health, division of laboratories, Chicago; Dr. Leonard M. Schuman, deputy director, Illinois Department of Public Health, division of preventive medicine, Springfield; and Dr. Sidney O. Levinson, director, Michael Reese Research Foundation, Chicago. The program will be preceded by a fellowship gathering, 5:30 p. m., and dinner, 6:30 p. m. For reservations, call CEntral 6-7764.

KANSAS

Cancer Institutes.—The following tentative dates have been announced for a series of cancer institutes for nurses, sponsored by the Kansas League of Nursing, the Kansas division of the American Cancer Society, and the division of geriatrics and chronic diseases and public health nursing services of the Kansas State Board of Health: Nov. 30, Dec. 1-2, Hays; Dec. 2-4, Wichita; Dec. 8-10, Kansas City; and Dec. 14-16, Topeka.

MASSACHUSETTS

House Officers' Lecture.—The House Officers' Association, New England Center Hospital, Boston, announces that on Dec. 1 at 7 p. m. Rosalind Pitt-Rivers, Ph.D., London, England, will discuss "Triiodothyronine and Thyroid Function" in the Stearns Auditorium of New England Center Hospital. All interested persons are invited.

University Retirements.—Dr. C. Wesley Sewall, head of the department of obstetrics, and Dr. Samuel R. Meaker, professor of gynecology, Boston University School of Medicine, have retired after 33 and 31 years of service, respectively. In World War I, Dr. Sewall served as captain in the U. S. Army Medical Corps and Dr. Meaker served in the Royal Army Medical Corps.

Emergency Library for Korean School.—At a ceremony on Sept. 23 in the Harvard School of Public Health, Boston, Brig. Gen. James Stevens Simmons, U. S. Army, retired, dean of the Harvard School of Public Health, presented to Mr. Pyo Wook Han, counselor of the Korean Embassy, an emergency library of more than 300 public health and preventive medicine texts and reference books for use in the new Seoul National University School of Public Health, South Korea's first school of public health. The books, collected at the request of Col. James P. Pappas, chief of the public health section of the United Nations Civil Assistance Command in South Korea and a graduate of the Harvard School of Public Health, were sent by air to Seoul by the American-Korean Foundation.

MICHIGAN

Television Course for Parents.—The University of Michigan Medical School, Ann Arbor, will conclude its series of television programs on the growing baby with its program on Dec. 6, in which Dr. Ralph D. Rabinovitch, associate professor of psychiatry and chief of the children's service, Neuropsychiatric Institute, will present "Your Child's Behavior." (For stations, see THE JOURNAL, Oct. 17, p. 649.)

MINNESOTA

Dr. and Mrs. Mayo Honored.—Dr. and Mrs. Charles W. Mayo, Rochester, were guests at a dinner in Minneapolis, given by the Minnesota United Nations Association, Aug. 24, in honor of his recent appointment as alternate delegate to the United Nations Assembly and of Mrs. Mayo for her service as a member of the board of directors of the Minnesota United Nations Association.

MISSISSIPPI

Rabies in Man.—According to the Department of Health, Education, and Welfare, U. S. Public Health Service, a man was bitten on the hand by one of two family dogs in June but did not seek treatment. The dog disappeared. On July 4 a son of the victim was bitten by the other dog whose brain, on examination at the state laboratory, showed Negri bodies. The child promptly received rabies vaccine and up to the time of report (late September) had escaped the disease. The man died, and examination of his brain confirmed the diagnosis of rabies.

Conference on Alcoholism.—The University of Mississippi in University announces that an Alcohol Studies Conference will be held at the university, Dec. 4-5, under sponsorship that includes 30 mid-south medical, business, and social organizations. Speakers will include Anton J. Carlson, Ph.D., professor emeritus of physiology, University of Chicago, Dr. Thomas L. Young of Mississippi State Hospital, Whitfield, Dr. Frank A. Latham of the Carrol Turner Sanatorium, Memphis, and Dr. David S. Pankratz, dean of the school of medicine. The public is cordially invited.

MISSOURI

Terry Lecture.—The annual Robert J. Terry lecture, "The Search for Man's Ancestors," will be delivered by William L. Straus Jr., Ph.D., professor of physical anthropology, Johns Hopkins University, Baltimore, before the St. Louis Medical Society at 8:30 p. m., Dec. 1, in the Medical Society Auditorium, 3839 Lindell Blvd.

NEW YORK

Institute of Cytology.—An institute of cytology was recently established at Beth-El Hospital, Brooklyn. The department will emphasize the diagnosis of cancer in the early stages of development before the appearance of symptoms and will conduct research studies of the relationship of the endocrine glands to cancer of the female reproductive system.

Dr. Coughlin Goes to Indonesia.—Dr. Frank E. Coughlin, Rensselaer County commissioner of health, has resigned from the board of health to accept a position in Indonesia as chief of public health in the Technical Cooperation Administration. He will serve for two years as adviser on all public health problems to the Republic of Indonesia. Dr. Coughlin's successor is Dr. Andrew C. Fleck of Troy, who joined the staff of the state health department in March, 1949.

Course on the Office Laboratory.—The University of Buffalo School of Medicine announces a postgraduate course (Dec. 3) on the office laboratory. Since the course is primarily oriented toward increasing the physician's understanding of modern laboratory procedures, the office technician may attend with, but not in place of, the physician. Presentations will include basic techniques, urine analysis, use of photoelectric colorimeter, blood chemistry, and coordination with the hospital laboratory. A concise laboratory manual will be made available to registrants. The fee of $15 should accompany application to Dr. Milton Terris, Assistant Dean for Postgraduate Education, University of Buffalo School of Medicine, 3435 Main St., Buffalo 14. Sessions will be held in Room G22, Capen Hall.

Personal.—Dr. Thelma S. Miner, Jamestown, was recently appointed district health officer in the Watertown area.——Dr. Harry Wexler, attending pediatrician, Maimonides Hospital, Brooklyn, recently received a New York University 1953 alumni meritorious service award for "distinguished service to the university." Dr. Wexler, who is currently chairman of the Parents' Association, New York University College of Medicine, has created a student aid and scholarship fund and has established the Harry Wexler Endowment Fund at the college.——Dr. William R. Donovan, Geneva, has been appointed director of the White Plains regional office, State Department of Health. Dr. Donovan, who has been district state health officer in charge of the Geneva district since June, 1947, has also been serving on a part time basis as acting health commissioner of the newly organized Seneca County Health Department since July 1, 1950.——At the ninth convention of the International Society for Speech and Voice Science, in Zurich, Dr. Emil Froeschels, New York, was elected honorary president of the society for life.——Dr. Raphael O. Patt, Johnson City, has been named an assistant medical director of the American Heart Association. Dr. Patt was engaged in the practice of medicine in Johnson City for several years, during which time he was associated with the medical department of the Endicott Johnson Corporation. He has also been affiliated with Fairview Park Hospital, Cleveland, New Jersey State Hospital, Marlboro, N. J., and Jennings Memorial Hospital, Detroit.

New York City

Hospital News.—On Dec. 4 Dr. William Dameshek, director, Blood Research Laboratory, New England Center Hospital, Boston, will present "Polycythemia and Related Conditions" at 3 p. m. in the social hall of Montefiore Hospital for Chronic Diseases.

Lecture on Leukemia.—The fifth annual Louis Hauswirth lecture in medicine, sponsored by the Beth David Hospital Alumni Association, will be delivered by Dr. Nathan Rosenthal, consultant hematologist, Mount Sinai and Beth David hospitals, attending physician, Harlem Hospital, and formerly clinical professor in medicine, Columbia University College of Physicians and Surgeons, Dec. 2, at Beth David Hospital, 161 E. 90th St. Dr. Rosenthal's subject will be "Present Trends in the Treatment of Leukemia."

Cancer Society Meeting.—The New York Cancer Society will meet on Dec. 1 at 8:30 p. m. in the New York Academy of Medicine, Fifth Avenue at 103rd St., to consider "Prospects for Earlier Diagnosis of Cancer." The following program will be presented:

Prospects for Earlier Diagnosis of Gastric Cancer, William A. Cooper, New York; discussant, Paul C. Swenson, Philadelphia.
Prospects for Earlier Diagnosis of Cancer of the Prostate, William F. Boyer, Tulsa, Okla.; discussant, Victor F. Marshall, New York.
Studies of Breast Smears in Relation to Breast Cancer, George N. Papanicolaou, New York; discussant, Howard L. Richardson, New York.
Prospects for Earlier Diagnosis of Lung Cancer, William J. Tuddenham, Philadelphia; discussant, Ross Golden, New York.

Physicians and medical students are cordially invited.

Dr. Oliver Honored.—The president of the State University of New York has announced the appointment of Dr. Jean Redman Oliver, professor of pathology at the university, as the university's first distinguished service professor, "in recognition not only of his long service to the college of medicine but more particularly of the preeminent contributions he has made in the field of teaching and for his outstanding contributions as an investigator." Dr. Oliver has the longest record of service to the medical school of any full professor on the faculty. Dr. Oliver has reviewed his contributions to renal pathology in the Harvey lecture in 1944 and 1945, the Janeway lecture in 1948, and the Guiteras memorial lecture in 1950. In 1952 he was awarded the William Wood Gerhard medal, and last spring the Phi Lambda Kappa medical fraternity at the college inaugurated an annual lectureship "in honor of the man who has done so much to clarify the structural and functional aspects of kidney disease." Dr. Oliver has been affiliated with Stanford University School of Medicine, Stanford University-San Francisco, the Stanford University and San Francisco hospitals, Rockefeller Institute, and the Long Island College and Kings County hospitals in Brooklyn. He has recently been granted a leave of absence by the university to engage in research for the U. S. Army Epidemiological Board on renal lesions in epidemic hemorrhagic fever but will return to the college during the year to lecture to the students.

NORTH CAROLINA

Annual Duke Medical Symposium.—Duke University School of Medicine, Durham, will hold its annual medical symposium Dec. 1-2. Speakers will include: Dr. S. Spafford Ackerly, University of Louisville School of Medicine; Dr. Leo H. Bartemeier, Wayne University College of Medicine, Detroit; Dr. Frank J. Curran, University of Virginia Department of Medicine, Charlottesville; Col. Albert J. Glass, chief of neuropsychiatric services, Brooke Army Medical Center, Fort Sam Houston, Tex.; Dr. Roger W. Howell, University of North Carolina School of Medicine, Chapel Hill; Dr. William S. Kroger, Chicago Medical School; Dr. William T. Lhamon, University of Pennsylvania School of Medicine, Philadelphia; Dr. Theodore Lidz, Yale University School of Medicine, New Haven, Conn.; and Dr. Ralph D. Rabinovitch, University of Michigan Medical School, Ann Arbor.

OKLAHOMA

Appoint Director of Health Services.—Dr. Jean S. Felton, associate professor in the departments of medicine and preventive medicine and public health, University of Oklahoma School of Medicine, Oklahoma City, has been appointed director of health service of the university hospitals. Dr. Felton, who came to Oklahoma City from the Oak Ridge (Tenn.) National Laboratory after serving there as medical director for seven and one-half years, is establishing the medical school's first course in industrial medicine this fall. Dr. Felton has been appointed to the Oklahoma governor's committee to further the employment of the handicapped and has been named as a member of the correspondence committee on occupational safety and health of the International Labor Office. During World War II he was in charge of industrial medicine for the San Francisco port of embarkation.

OREGON

Dr. Kaufman Honored.—Following the outbreak of the Korean hostilities, Dr. Russell H. Kaufman, Portland, chairman of the committee on emergency medical service, Oregon State Medical Society, was awarded the National Freedoms Foundation's George Washington honor medal. Dr. Kaufman played a leading part in the development of the programs of the Oregon Civil Defense Agency and the Portland Disaster Relief and Civil Defense Organization, of which he is chairman of the physicians' section.

PENNSYLVANIA

Hospital News.—The Doylestown Emergency Hospital, said to be operated solely by women, has been bequeathed $125,000 in the will of Mrs. Kate Penrose Shuman of Doylestown, who died July 24 at the age of 99. The hospital recently completed another building program at a cost of $175,000.

University News.—Dr. William H. Ramsey, Bryn Mawr, has been appointed associate professor of surgery (proctology) at Hahnemann Medical College and Hospital of Philadelphia.

Dr. Ramsey is assistant surgeon to Pennsylvania Hospital, Philadelphia, and to Bryn Mawr Hospital and consulting surgeon to Veterans Administration Hospital, Philadelphia.

Philadelphia

Philips Lecture.—Dr. William P. Shepard, vice-president of the Metropolitan Life Insurance Company, New York, will discuss "Industrial Health" at Roberts Hall, Haverford College, on Dec. 1 at 11 a. m. This presentation is one of the William Pyle Philips series, "New Frontiers in Medicine."

Anders Lecture on Pituitary Infantalism.—The College of Physicians of Philadelphia announces the James M. Anders lecture at 19 S. 22nd St. on Dec. 2 at 8:30 p. m. Sir Geoffrey Jefferson, M.S. (London), F.R.C.S., emeritus professor of neurosurgery, University of Manchester, England, will present "Reflections on Pituitary Infantalism."

Television Programs.—In conjunction with the WFIL-TV University of the Air, members of the faculty of the Philadelphia College of Pharmacy and Science are presenting television lectures over that station, Channel 6, on Friday mornings, 11:15 to 11:33. The following programs are scheduled for December:

Dec. 4, Sources of Some Household Medicinals.
Dec. 11, The Frontier of Research on Cancer.
Dec. 18, Allergy and the Antihistamines.

RHODE ISLAND

Cancer Conference.—At the annual Cancer Conference for Physicians, held at Miriam Hospital in Providence under the auspices of the Rhode Island Medical Society, Oct. 14, the following program was presented:

Use of Radioactive Isotopes in Cancer, Joseph C. Aub, Boston.
Cancer of the Mouth, Ernest M. Daland, Boston.
Exfoliative Cytologic Method in the Diagnosis of Gastric Cancer (a motion picture).
Carcinoma-in-Situ, Richard W. TeLinde, Baltimore.
Surgical Treatment of Cancer of the Cervix, Alexander Brunschwig, New York.
Bronchogenic Carcinoma, Francis B. Berry, New York.
Carcinoma of the Colon and Rectum in Connecticut, Edward J. Ottenheimer, Willimantic, Conn.

Personal.—Dr. Henry H. Babcock, acting superintendent and physician-in-chief since May, 1951, of Butler Hospital, Providence, has been named permanently to that post by the board of trustees.——On behalf of the Jewish War Veterans, Governor Roberts recently presented Dr. Alexander M. Burgess with an award of merit for his work in the field of brotherhood. Dr. Burgess has served as physician-in-chief in three hospitals in Providence; served abroad in the Navy in World War I; as chairman of the Medical Teaching Mission to Germany in 1948; and for several years has been the Area Medical Section Chief at the Veterans Administration for New England and New York.——At commencement exercises, the Rhode Island College of Pharmacy and Allied Sciences conferred on Dr. Michael H. Sullivan the honorary degree of doctor of science. Dr. Sullivan has served the Newport Hospital as associate surgeon and chief of obstetrics and has been president of the Newport board of health since 1944. He was recently selected as practitioner of the year by the Rhode Island Medical Society.

TENNESSEE

University News.—Vanderbilt University School of Medicine, Nashville, has established a separate division of ophthalmology with Dr. Henry Carroll Smith, professor of clinical ophthalmology, as its head.——The U. S. Public Health Service has awarded grants totaling $45,012 to investigators at the University of Tennessee Medical Units, Memphis: $25,000 will be used to improve the teaching of cancer in the College of Medicine and $7,603, to familiarize the women of Shelby County with the current cervical cancer detection program. Dr. Cyrus C. Erickson, professor of pathology, was awarded $7,225 to conduct research on cancer of the cervix. Dr. Albert M. Hand, instructor in pathology, who is attempting to improve the treatment of phenomena in the newborn, was awarded a grant of $5,184.——The new Graduate Science Laboratory, a three story annex to the Vanderbilt University School of Medicine, Nashville, has been constructed at a cost of approximately $300,000 ($125,000 of which was supplied by a grant from the National Advisory Cancer Council) to provide a place where scientists in various fields may work together. It is planned that additional stories, from the fourth to the ultimate ninth, can be added one or more at a time, whenever they are needed to house appropriate research work. Among the contemplated projects is a study on metabolism employing radioactive isotopic tracers, a technique that will involve the departments of anatomy, biochemistry, biology, chemistry, mathematics, pathology, pharmacology, physics, and physiology.

TEXAS

Internists Meet in Houston.—The meeting of the Texas Academy of Internal Medicine, Dec. 5-6, at the Shamrock Hotel in Houston, will be preceded by a postgraduate course in endocrinology, particularly on the pituitary-adrenal aspects, Dec. 2-3, given in cooperation with the Baylor University College of Medicine. Dr. Jerome W. Conn, professor of medicine, University of Michigan Medical School, Ann Arbor, will be guest speaker. This course will be open only to members of the Texas Academy of Internal Medicine at a fee of $10. On Dec. 4, the Texas Rheumatism Association meeting will also be held at the Shamrock Hotel, with Dr. Edward W. Boland, Los Angeles, as guest speaker. By payment of a registration fee of $5 any member of the Texas Academy of Internal Medicine will be allowed to attend this program.

WEST VIRGINIA

Society News.—The West Virginia Trudeau Society has elected Dr. Hugh S. Edwards, Beckley, president, Dr. George F. Evans, Clarksburg, vice-president, and Dr. Haven M. Perkins, Charleston, secretary-treasurer.——All the present officers of the West Virginia Tuberculosis and Health Association were reelected at the annual meeting in Fairmont. Dr. Karl J. Myers, Philippi, is president, Dr. Harold H. Howell, Madison, vice-president, Mr. Lester Harer, Logan, secretary, and Mr. Robert C. Hawkins, Charleston, treasurer.

WISCONSIN

Proctology Course.—A postgraduate course in proctology is being offered at Marquette University Medical School, Milwaukee. The first session was held Nov. 25. Other meetings are scheduled for Dec. 2, 9, and 16, 4-5:30 p. m., closing with clinical sessions at the Milwaukee County Dispensary on Dec. 10 and 14 from 10:30 a. m. to 12 noon. The course, which is directed by Dr. Albert Schutte, assistant clinical professor of surgery, is accredited by the Academy of General Practice. Tuition fee is $25.

ALASKA

Personal.—Dr. Arthur N. Wilson has been appointed a member of the Alaska Board of Health to succeed Dr. Dwight L. Cramer, a member of the first board of health, whose current term expired in January. Both physicians are from Ketchikan. Dr. Asa L. Martin, Anchorage, is a hold-over member of the Board.

Alaska Territorial Medical Meeting.—The Alaska Territorial Medical Association at its annual meeting in Sitka elected Dr. Paul B. Haggland, Fairbanks, president; Dr. Asa L. Martin, Anchorage, first vice-president; Dr. John O. Bangeman, Wrangell, second vice-president; and Dr. William P. Blanton, Juneau, secretary-treasurer. Honorary memberships were conferred on the following guest speakers: Dr. Martin H. Seifert, Wilmette, Ill.; Dr. Vernon C. Turner, Evanston, Ill.; Dr. Lowell D. Snorf, Evanston; Dr. Franklin B. Peck, Indianapolis; and Dr. Caleb S. Stone Jr., Seattle. The 1954 meeting of the Alaska Territorial Medical Association will be held at McKinley Park, Alaska, Aug. 15-17. Visitors from the states are invited to attend this meeting and to make reservations directly with the McKinley Park Hotel.

GENERAL

Rheumatology Prize.—The Health Resort Office of Acqui in Italy announces that the closing date of the international competition, under the auspices of the Italian Society for Rheumatology, for the Acqui award for rheumatology (The Journal, July 11, p. 1056) has been extended from Jan. 31 to Feb. 28, 1954.

Society News.—At the annual meeting in Springfield the **American Medical Writers' Association** installed Dr. Jacob E. Reisch, Springfield, Ill., as president for 1954 and elected the following officers: president-elect, Dr. Lee van Antwerp, Skokie, who was also named editor; first vice-president, Dr. W. W. Bauer, Chicago; second vice-president, Dr. Stewart G. Wolf, Oklahoma City; accounting officer, Dr. Norbert C. Barwasser, Moline, Ill.; and secretary-treasurer, Dr. Harold Swanberg, Quincy, Ill.

Meeting on Alcoholism.—The fifth International Conference of Doctors in Alcoholics Anonymous will be held at the Mayflower Hotel in Akron, Ohio, May 14-16, 1954. Among the speakers will be Dr. Harry M. Tiebout, Greenwich, Conn., Dr. Arnold Z. Pfeffer, New York, chief of the Alcoholic Clinic at University Hospital in New York, and Seldon D. Bacon, Ph.D., of the Yale Foundation of Alcoholism. Information may be obtained from Dr. Herbert D. Chamberlain, McArthur, Ohio, or Doctors, care of the Mayflower Hotel, Akron, Ohio.

Anniversary Issue Dedicated to Dr. Cannon.—The September-October number of *Psychosomatic Medicine*, the 15th anniversary issue of the journal of the American Psychosomatic Society, is dedicated to the late Dr. Walter B. Cannon, who joined the faculty of Harvard Medical School, Boston, in 1899, in 1906 became head of its department of physiology, and in 1942 became emeritus professor of physiology. He was secretary of the A. M. A. Section on Pathology and Physiology, 1906-1908, and a member of the A. M. A. Council on Physical Therapy when it was created in 1925.

New Radiation Journal.—Academic Press, Inc., announces the completion of plans for a new journal, *Radiation Research*, the official organ of the Radiation Research Society, with Titus C. Evans, Ph.D., State University of Iowa College of Medicine, Iowa City, as managing editor. The journal will publish, bimonthly, original articles dealing with all phases of radiation research to promote the integration of the disciplines of physics, chemistry, biology, and medical research as they are concerned with the effects of radiation on matter. The first issue is scheduled for release in February, 1954. Information about subscriptions may be obtained from Academic Press, Inc., 125 E. 23rd St., New York 10.

Journal of Forensic Medicine.—With the July-September issue, a quarterly international medicolegal journal, *Journal of Forensic Medicine*, was launched under the sponsorship of the Medico-Legal Society (Johannesburg, South Africa). The first issue contains the following titles: "Blood Groups and Skin Colour," "Identification of Skeletal Remains," "Dentures and Individual Identification," "Sudden or Unexpected Deaths in Infancy," "X-Rays as an Aid to Medico-Legal Investigation," "Sudden Death with the Minimal Anatomical Findings," "Estimation of Structure from the Long Bones," and "Estimation of Age from Cranial Suture Closure." The address of the publication is P. O. Box 30, Cape Town, South Africa, and its editor is H. A. Shapiro, Ph.D., M.B., Ch.B., F.R. S.S.Af. The annual subscription rate is 42 shillings (approximately $6).

Life Expectancy Among Diabetics.—According to the Metropolitan Life Insurance Company, expectation of life among diabetics has increased substantially as a result of progress in the medical control of the disease and the introduction of insulin therapy. Their analysis of the experience among many thousands of diabetics treated at the Joslin Clinic in Boston showed that (1) no less than 35% of recently deceased patients had lived 20 years or more after onset of the disease, (2) the list of causes of death more and more resembles that among nondiabetics, and (3) diabetic coma was responsible for only 1% of the recent deaths. Death from infection, likewise, had been reduced to minor importance in the total mortality among diabetics. A major proportion of the deaths was accounted for by heart disease of the coronary type; the second largest cause, accounting for nearly one eighth of the deaths, was renal disease.

Goiter Association's Merit Award.—An anonymous gift of $1,000, to be awarded each year for three years, has been accepted by the executive council of the American Goiter Association. This sum shall be given to the member of the association under 45 years of age who has made the most important contributions to the knowledge and understanding of thyroid disease or its treatment. Candidates for the award are to be nominated by members of the association, who must submit (1) details of the nominee's present and past positions and training, (2) a bibliography of the nominee's publications, and (3) a full explanation of the reasons for the nomination. The award, which will be called the American Goiter Association Award of Merit, will be presented at the annual banquet. Two copies of nominations must be received not later than Feb. 1, 1954, by Dr. John C. McClintock, recording and corresponding secretary, 149½ Washington Ave., Albany 10, N. Y.

Osborne and Mendel Award.—Nominations are invited for the Osborne and Mendel Award of $1,000, established by the Nutrition Foundation, Inc. The award is given to the investigator who is judged to have made the most significant published contribution in the year preceding the annual meeting of the American Institute of Nutrition, or who has published a series of contemporary papers of outstanding significance. Preference will be given to research workers in the United States and Canada, but investigators in other countries, especially those sojourning in the United States or Canada, are not excluded from consideration. Membership in the institute is not a requirement for eligibility, and there is no limitation as to age. Nominations for the award, which may be made by anyone, should be sent before Jan. 1, 1954, together with data relative to the accomplishments of the nominee, to the chairman of the nominating committee, Herbert E. Robinson, Ph.D., Research Laboratories, Swift and Company, Union Stock Yards, Chicago 9.

Graduate and Postdoctoral Fellowships.—The National Science Foundation plans to award about 750 graduate and postdoctoral fellowships to persons planning to undertake graduate study in the sciences during the 1954-1955 academic year. Awards for graduate training will be announced March 15, 1954, and awards for postdoctoral training, April 1. Selection of persons for fellowships will be made from among citizens of the United States, solely on the basis of ability. Awards are not made to persons studying for the M.D. degree, but applications will be accepted from students who intend to obtain advanced training in one of the medical sciences directed toward a career in research. Persons now in college or graduate school should find application forms available through the office of their president, dean, or department head. Application forms also may be requested from the Fellowship Office, National Research Council, 2101 Constitution Avenue, N. W., Washington 25, D. C.

Conference on Diathermy Equipment.—The Federal Communications Commission, Washington 25, D. C., announces that, at the request of the Electro-Medical Manufacturers Association, a conference on regulation of medical diathermy equipment will be held, starting at 10 a. m. on Nov. 30 at the commission's offices. This conference is being called to discuss problems relating to the enforcement of Part 18 of the commission's rules governing the use of medical diathermy equipment, which became effective on June 15, 1947, but did not become applicable until June 30, 1953, to medical diathermy equipment manufactured and assembled before July 1, 1947. Part 18 now requires that all short wave medical diathermy equipment be of the type approved by the commission, certified by the manufacturer or a competent engineer, or licensed by the commission. All interested parties are invited to attend and are requested to send written notification to the chief engineer of the commission signifying their intention to be present.

Public Welfare Conference in Chicago.—The national biennial round-table conference of the American Public Welfare Association will convene at the Edgewater Beach Hotel, Chicago, Dec. 2-5. Round tables will include home medical care programs, structure and purpose of commissions on aging, cooperation in rehabilitation for handicapped persons, principles of medical and dental care programs for the needy, principles and problems of hospital payment, public welfare services to the aged, use of mental health resources, and the financing of hospital care for persons with low incomes. Panel discussions include "The Life Span" and "Current Issues in Social Security." The Hon. Harold E. Stassen, director, Foreign Operations Administration, Washington, D. C., will address the luncheon meeting Thursday, 12 noon to 1:45 p. m. The Hon. William G. Stratton, governor, State of Illinois, will present greetings at the conference banquet Friday, 7 to 10 p. m., and the Hon. Oveta Culp Hobby, secretary of health, education, and welfare, Washington, D. C., will deliver an address. John W. Tramburg, director, State Department of Public Welfare, Madison, Wis., will be the speaker for the closing general session, Saturday, 11:15 a. m. to 12:30 p. m.

Surgical Association Meeting.—The Western Surgical Association will hold its annual meeting, Dec. 3-5, at the Drake Hotel, Chicago, under the presidency of Dr. G. Lawrence Chaffin, Los Angeles. Papers presented by invitation include:

New Method for the Determination of Gallbladder Function, Lloyd A. Stirrett and Eric T. Yuhl, Los Angeles.
The Spleen—A Surgical Trouble-Maker, Stephen E. Reid, Evanston, Ill.
Use of Parasympatholytic Drugs in Treatment of Craniocerebral Injuries, Daniel A. Ruge, Chicago.
Leiomyosarcoma of the Inferior Vena Cava—Case Report, Joseph S. Cope, Kansas City, Mo.
Arfonad in General Surgery, Max S. Sadove, Gordon M. Wyant, and Gwen Gleave, Chicago.

By invitation 35 other speakers will participate in the presentation of the papers scheduled. A clinical day has been planned Wednesday by the local committee at the Veterans Administration Hospital, Hines, Ill., and the Research and Educational Hospitals, Chicago. Dr. Chaffin will deliver the presidential address, "Examinations by the American Board of Surgery," on Thursday. Cocktails in the French Room, 6:30 p. m., will precede dinner in the Gold Coast Room, at which Dr. Willis J. Potts, Chicago, will be toastmaster.

Van Meter Prize.—The Van Meter prize for 1953 was awarded to Dr. Belton A. Burrows, assistant professor, Boston University School of Medicine, for the essay (with Dr. Joseph F. Ross, associate professor of medicine), entitled "The Thyroidal Uptake of Stable Iodine Compared with the Serum Concentration of Protein-Bound Iodine in Normal Subjects and in Patients with Thyroid Disease." Drs. Burrows and Ross serve as senior physician and director, respectively, of the radioisotope unit, Veterans Administration Hospital, Boston. First honorable mention was given to the essay by Dr. Sidney H. Ingbar, Boston, entitled "Simultaneous Measurement of the Iodide-Concentrating and Protein-Binding Capacities of the Human Thyroid Gland." Dr. Ingbar is instructor in medicine, Harvard Medical School, Boston. Second honorable mention was given to the essay by Dr. Jacob Robbins, New York, entitled "Identification of Thyroglobulin in Human Serum After Large Doses of I^{131}." Dr. Robbins is research fellow at the Sloan-Kettering Institute, clinical assistant in medicine at Memorial Center for Cancer and Allied Diseases, and instructor in medicine at Cornell University Medical College.

Science Writers Association.—The National Association of Science Writers, which was formed in 1934, announces establishment of headquarters at 353 Fourth Ave., New York 10, with Miss Harriet G. Trowbridge of *Popular Science Monthly* as administrative secretary. The association, which meets twice a year (during the annual meetings of the American Association for the Advancement of Science and the American Medical Association), helps to administer the annual Lasker awards of the Albert and Mary Lasker Foundation for outstanding writing on health and medicine. It assisted the American Heart Association in establishing the annual Howard W. Blakeslee memorial award, given each year to the person making the best contribution through a communication medium to public understanding of heart and blood vessel disease. The association is undertaking an expanded, long-range program to (1) encourage accurate, reliable, responsible and interesting science writing, (2) increase the number of science writers and the number of newspapers, magazines, news agencies, and radio and TV outlets employing them, (3) point out to editors that much science news is already among the highest readership news they can use, (4) point out to scientists that their cooperation with responsible newsgatherers is essential if the people are to understand the directions in which our civilization is going, (5) aid and advise scientific and technical groups, and (6) enlist support for science.

Dermatologists Meet in Chicago.—The American Academy of Dermatology and Syphilology will hold its annual meeting at the Palmer House, Chicago, Dec. 5-10, under the presidency of Dr. Michael H. Ebert, Chicago. Special courses will be given Saturday and Sunday on granulomatous dermatoses, nevi and neoplasms, mycology, x-ray and radium therapy, bacteriology and virology of the skin, research methods in dermatology, anatomy and embryology of the skin, and special problems in dermatohistopathology. Monday morning special lectures will be delivered on pigmentation in its various phases by Dr. Thomas B. Fitzpatrick and Dr. A. Bunsen Lerner, Portland, Ore. Monday afternoon there will be symposiums on (1) internal medical aspects of cutaneous disease, (2) physical and radiation therapy, and (3) mucous membrane lesions (to be continued Tuesday morning). A round-table panel on dermatitis of the hands will be conducted from 2 to 5 p. m. Dr. Walter Bauer, Jackson professor of clinical medicine, Harvard Medical School, Boston, will deliver a special lecture, "Some Facets of Medical Education," at 8:30 p. m. in the grand ballroom. Symposiums on Tuesday include: "Physiology and Chemistry of the Skin," "Granulomas (Lupus Erythematosus)," "Industrial Dermatoses," "Bullous Dermatoses" (with a panel on the treatment of pemphigus), and "Dermatological Parasitology." Tuesday morning a round-table panel on medical writing will be held in private dining room No. 18, Club Floor. The committee on military affairs will have a luncheon meeting in the secretary's suite at 12 noon. Tuesday afternoon there will be a panel on the diagnosis and treatment of cutaneous malignancy in the grand ballroom and a round-table panel on techniques in the application of x-ray and radium in private dining rooms no. 15 and 16, Club Floor. Dr. Harry Goldblatt, director of laboratories and research, Mount Sinai Hospital, Cleveland, will deliver a special lecture, "The Experimental Induction of Malignancy," in the grand ballroom at 8:30 p. m. Wednesday symposiums include: "Syphilis," "History of Dermatology" (to be followed by round-table discussion on the influence of the British School of Dermatology on American and world dermatology), "Miscellaneous Dermatoses," "Surgical Management of Dermatologic Lesions," and "Cutaneous Allergy," which will include a panel on cosmetics in which Veronica L. Conley, M.N., Assistant Secretary, A. M. A. Committee on Cosmetics, will present "The Functions and Views of the Committee on Cosmetics of the American Medical Association."

FOREIGN

Institute for Research on Infertility.—The Municipal Hospital Hadassah in Tel-Aviv, Israel, has established an institute for research and treatment of infertility as a subunit of the gynecologic and obstetric department.

Dr. Carrell Honored.—Dr. Russell C. Carrell, medical director, Lago Oil and Transport Co., Ltd., San Nicholas, Aruba, N.W.I, was recently honored by Queen Juliana of the Netherlands, who appointed him Officer in the Order of Orange Nassau in recognition of his work toward improvement of the health of the Aruban population.

Society News.—The second annual meeting of the Persian Gulf Medical Society will be held at Dhahran, Saudi Arabia, Dec. 2-3 under the chairmanship of Dr. Neal J. Conan Jr., head, department of internal medicine, Arabian American Oil Company, Dhahran. Diseases endemic to the Persian gulf area will be discussed.

Cruise Congress in the Adriatic.—The International Congress of Hydrotherapy and Thalassotherapy, May 8-16, 1954, will be held on a ship that will travel up the Adriatic coast. The congress will have its headquarters in Dubrovnik, Yugoslavia. Among the topics to be considered are bioclimatic factors in thalassotherapy; significance of thalassotherapy in modern treatment of osteoarticular tuberculosis, significance of hydroclimatic treatment in rheumatic diseases, in diseases of the *respiratory tract, and hypertensive diseases,* and analytical methods in the examination of mineral waters. Persons wishing to participate in the congress should register before Dec. 31. The fee is $10. Further information may be obtained from Prof. Čedomil Plavšic, Beograd, Yugoslavia, Zeleni venac 1.

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

1953 Clinical Meeting, St. Louis, Dec 1-4.

1954 Annual Meeting, San Francisco, June 21-25.

1954 Clinical Meeting, Miami, Florida, Nov. 30-Dec. 3.

1955 Annual Meeting, Atlantic City, N. J., June 6-10.

1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

American Academy of Dermatology and Syphilology, Palmer House, Chicago, Dec. 5-10. Dr. John E. Rauschkolb, P. O. Box 6565, Cleveland 1, Secretary.

American Academy of Obstetrics and Gynecology, Netherland Plaza Hotel, Cincinnati, Dec. 14-16. Dr. C. Paul Hodgkinson, 116 South Michigan Blvd., Chicago 3, Secretary.

American Federation for Clinical Research, Eastern Section, Amphitheater, Children's Medical Center, Boston, Jan. 4. Dr. Walter Judson, Evans Memorial Hospital, Boston, Chairman.

American Laryngological, Rhinological and Otological Society:

Eastern Section, Waldorf-Astoria, New York, Jan. 8. Dr. Francis W. Davison, Danville, Pa., Chairman.

Middle Section, Park Plaza Hotel, St. Louis, Jan. 18. Dr. Ralph J. McQuiston, 20 North Meridian St., Indianapolis 4, Chairman.

Southern Section, Brown Hotel, Louisville, Ky., Jan. 16: Dr. Lester A. Brown, 490 Peachtree St., N.E., Atlanta 3, Ga., Chairman.

American Society for Surgery of the Hand, Palmer House, *Chicago,* Jan. 22. Dr. George V. Webster, 960 East Green St., Pasadena 1, Calif., Secretary.

Association for Research in Nervous and Mental Diseases, Hotel Roosevelt, New York, Dec. 11-12. Dr. Clarence C. Hare, 710 West 168th St., New York 32, Secretary.

Radiological Society of North America, Palmer House, Chicago, Dec. 13-18. Dr. Donald S. Childs, 713 East Genesee St., *Syracuse* 2, N. Y., Secretary.

Regional Meetings, American College of Physicians:

Eastern Pennsylvania, Philadelphia, Jan. 15. Dr. Thomas M. McMillan, 330 S. Ninth St., Philadelphia 7, Governor.

Michigan, H. H. Rackham Auditorium, Ann Arbor, Dec. 5. Dr. H. Marvin Pollard, 1313 East *Ann St.,* Ann Arbor, Governor.

North Carolina, Chapel Hill, Dec. 3. Dr. Elbert L. Persons, Duke Hospital, Durham, Governor.

Southern Surgical Association, The Homestead, Hot Springs, Va., Dec. 8-10. Dr. John C. Burch, 2112 West End Ave., Nashville 5, Tenn., Secretary.

Western Surgical Association, The Drake, Chicago, Dec. 3-5. Dr. Michael Mason, 154 *East Erie St., Chicago 11, Secretary.*

FOREIGN

Association of Surgeons of Great Britain and Ireland, Leeds, England, May 13-15, 1954. Dr. Henry W. S. Wright, 45 Lincoln's Inn Fields, London W.C.2, England, Honorary Secretary.

British Medical Association, Glasgow, Scotland, July 1-9, 1954. Dr. A. Macrae, B.M.A. House, Tavistock Square, London, W.C.1, England, Secretary.

Canadian Medical Association, Vancouver, B. C., Canada, June 18-22, 1954. Dr. T. C. Routley, 135 St. Clair Ave. W., Toronto 5, Ont., Canada, General *Secretary.*

Conference of International Union Against Tuberculosis, Madrid, Spain, Sept. 26-Oct. 2, 1954. Secretatiat, Escuela *de Tisiologia, Ciudad* Universitaria, Madrid, Spain.

Congress of International Association for the Prevention of *Blindness,* New York, N. Y., U. S. A., Sept. 12-17, 1954. Professor Franceschetti, 2 Avenue Mirmot, Geneva, *Switzerland, Secretary-*General.

Congress of International Society of Surgery, Paris, France, May 21-22, 1954. Dr. L. Dejardin, 141, rue Belliard, Brussels, Belgium, *General Secretary.*

French Medical Congress of French Speaking Countries in the Caribbean, Port-au-Prince, Haiti, Dec. 15-21. For information write: Dr. Constant Pierre-Louis, School of Medicine, Port-au-Prince, Haiti.

International Cancer Congress, Sao Paulo, Brazil, July 23-29, 1954. Prof. A. Prudente, 171 rua Benjamin Constante, Sao Paulo, Brazil, President.

International Conference on Thrombosis and Embolism, Basle, *Switzerland, July 15-19, 1954.* Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, Switzerland, Hon. Secretary.

International Congress on Child Psychiatry, University of Toronto, Toronto, Ontario, Canada, Aug. 13-14, 1954. Miss Helen Speyer, International Association for Child Psychiatry, 1790 Broadway, New York 19, New York, U. S. A., Executive Officer.

International Congress of Clinical Pathology, Washington, D. C., *U. S. A.,* Sept. 6-10, 1954. Dr. Robert A Moore, Washington University School of Medicine, St. Louis 10, Missouri, U. S. A., Chairman, Committee on Arrangements.

International Congress on Diseases of the Chest, Barcelona, *Spain,* Oct. 4-8, 1954 Mr. Murray Kornfeld, 112 East Chestnut St., Chicago 11, Illinois, Executive Secretary.

International Congress on Group Psychotherapy, Toronto, Ont., Canada, Aug. 12-14, 1954. Dr. J. L. Moreno, Room 327, 101 Park Ave., New York 17, N. Y., U. S. A., Director of Organizing Committee.

International Congress of Hematology, Paris, Sept. 6-11, 1954. Dr. Jean Bernard, 86 rue d'Assas, Paris 6^e, France, Secretary.

International Congress of the History of Medicine, Rome and Salerno, Italy, Sept. 13-20, 1954. For information write: *Segreteria XIV* Congresso Internazionale di Storia della Medicina, Instituto di Storia della Medicine, Citta Universitaria, Rome, Italy.

International Congress of Hydroclimatism and Thalassotherapy, Dubrovnik, Yugoslavia, May 8-16, 1954. Prof. C. Plavsic, Zeleni venac 1, Belgrade, Yugoslavia, Secretary General.

International Congress of Industrial Medicine, Naples, Italy, *Sept.* 13-19, 1954. Professor Scipione Caccuri, Director, Institute of Industrial Medicine Policlinico, Naples, Italy, Chairman, Organizing Committee.

International Congress of Internal Medicine, Stockholm, Sweden, *Sept.* 15-18, 1954. Professor Anders Kristenson, Karolinska Sjukhuset, Stockholm 60, *Sweden, Secretary-General.*

International Congress of International College of Surgeons, Sao *Paulo, Brazil,* April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake *Shore* Drive, Chicago. Illinois, U. S. A., Secretary-General.

International Congress on Mental Health, University of Toronto, Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write: Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

International Congress *of Nutrition,* Amsterdam, Netherlands, Sept. *14-18, 1954.* For information write: Dr. M. van Eekelen, Centraal Instituut voor Voedingsonderzoek T.N.O., 61 Catharynesingel, Utrecht, *Netherlands.*

International Congress on Obstetrics and Gynecology, *Geneva, Switzerland,* July 26-31, 1954. Dr H. de Watteville, Maternité Hôpital Cantonal, Geneva, Switzerland, *President.*

International Congress of Ophthalmology, University of Montreal and McGill University, Montreal, Canada, Sept. 10-11, 1954, and Waldorf-Astoria, New York, N. Y., U. S. A., Sept. 12-17, 1954. Dr. William L. Benedict, 100 First Avenue Building, Rochester, Minnesota, U. S. A., Secretary-General.

International Congress of Orthopedic Surgery and Traumatology, Berne, Switzerland, Aug. 30-Sept. 3, 1954. *For information write:* Professor M. Dubois, Isle-Hospital, Berne, Switzerland.

International Congress of *Psychology,* Montreal, Canada, June 7-12, 1954. For information write: Prof. H. S. Langfeld, International Union of Scientific Psychology, Eno Hall, Princeton University, Princeton, N. J., *U. S. A.*

International Congress for Psychotherapy, Zurich, Switzerland, July 21-24, 1954. Dr. H. K. Fierz, Theaterstrasse 12, Zurich 1, Switzerland, Secretary General.

International Gerontological Congress, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

International Poliomyelitis Congress, Rome, Italy, Sept. 6-10, 1954. Mr. Stanley E. Henwood, 120 Broadway, New York 5, N. Y., U. S. A., Executive Secretary.

International Society of Blood Transfusion, Paris, France, Sept. 12-19, 1954. For information write: Colonel Julliard, Societe Internationale de Transfusion Sanguine, 53 Boulevard Diderot, Paris 12^e, France.

International Society for Cell Biology, Leiden, Netherlands, Sept. 2-9, 1954. Professor Peter J. Gaillard, University of Leiden, Leiden, Netherlands, Secretary.

International Society of Geographical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Professor Fred C. Roulet, Hebelstrasse 24, Basle, Switzerland, Secretary-General.

Journees Medicales, Paris, France, April 21-25, 1954. For information write: Secretariat of the Journees, 12, rue Pierre-Geofroix, Colombes (Seine) France.

Latin American Congress of Otorhinolaryngology, Caracas, Venezuela, Feb. 21-25, 1954. Dr. Victorino Marquez Reveron, Centro, Medico, Caracas, Venezuela, Secretary-General.

Latin American Congress of Physical Medicine, Medellin, Columbia, South America, Feb. 15-20, 1954. Dr. Cassius Lopez de Victoria, 176 East 71st St., New York 21, N. Y., U. S. A., Executive Director.

Pan American Congress of Otorhinolaryngology and Bronchoesophagology, Mexico, D.F., Mexico, Feb. 28-March 4, 1954. Dr. Pedro Hernandez Gonzalo, 8 No. 358, Vedado, Havana, Cuba, General Secretary.

Pan American Medical Association, International Medical Cruise Congress, S. S. Nieuw Amsterdam, Jan. 6-22, 1954. Dr. Joseph J. Eller, 745 Fifth Avenue, New York 22, N. Y., U. S. A., Executive Director.

Pan-Pacific Surgical Congress, Honolulu, Hawaii, Oct. 7-18, 1954. Dr. F. J. Pinkerton, Suite 7, Young Bldg., Honolulu 13, Hawaii, Director General.

Persian Gulf Medical Society, Dhahran, Saudi Arabia, Dec. 7-8. Dr. N. J. Conan Jr., Department of Internal Medicine, Arabian American Oil Company, Dhahran, Saudi Arabia, Secretary.

Sectional Meeting, American College of Surgeons, London, England, May 17-19, 1954. Dr. Michael L. Mason, 40 East Erie St., Chicago 11, Ill., U. S. A., Secretary.

South American Congress of Angiology, Sao Paulo, Brazil, July 1954. For information write: Dr. Rubens Carlos Mayall, Rua Senador Vergueiro 73, Rio de Janeiro, Brazil, S. A.

World Congress of Cardiology, Washington, D. C., and Bethesda, Md., U. S. A., Sept. 12-17, 1954. Dr. L. W. Gorham, 44 East 23d St., New York 10, N. Y., U. S. A., Secretary-General.

World Congress of International Society for the Welfare of Cripples, The Hague, Netherlands, Sept. 13-17, 1954. For information write: D. C. Schaap, Centrale Vereniging, Apeldoorschweg 51, Arnhem, Netherlands.

World Federation of Occupational Therapists, Edinburgh, Scotland, August 17, 1954.

World Medical Association, Rome, Italy, Sept. 26-Oct. 2, 1954. Dr. Louis H. Bauer, 345 East 46th St., New York 17, N. Y., U. S. A., Secretary-General.

EXAMINATIONS AND LICENSURE

BOARDS OF MEDICAL EXAMINERS

Alabama: *Examination.* Montgomery, June 22-24, 1954. Sec., Dr. D. G. Gill, 537 Dexter Ave., Montgomery.

Colorado:* *Examination.* Denver, Dec. 15-16. Final date for filing application was Nov. 14. *Endorsement.* Denver, Jan. 12. Final date for filing application is Dec. 12. Executive Secretary, Miss Beulah H. Hudgens, 831 Republic Bldg., Denver 2.

Delaware: Dover, Jan. 12-14, 1954. Sec., Dr. Joseph S. McDaniel, 229 South State St., Dover.

District of Columbia:* *Reciprocity.* Washington, Dec. 14. Sec., Dr. Daniel L. Seckinger, 1740 Massachusetts Ave., N.W., Washington.

Guam: The Commission on Licensure will meet whenever a candidate appears or submits his credentials. Director of Medical Services, Guam Memorial Hospital, Agana.

Hawaii: Honolulu, Jan. 11-14. *Examination.* Sec., Dr. I. L. Tilden, 1020 Kapiolani St., Honolulu.

Idaho: Boise, Jan. 11-13, 1954. Executive Secretary, Mr. Armand L. Bird, 364 Sonna Bldg., Boise.

Illinois: *Examination and Reciprocity.* Chicago, Jan. 26-28. Supt. of Registration, Mr. Fredric B. Selcke, Capitol Bldg., Springfield.

Indiana: *Examination.* Indianapolis, June 16-18. Exec. Sec., Miss Ruth V. Kirk, 538 K of P Bldg., Indianapolis.

Massachusetts: *Examination.* Boston, Jan. 12-15. Sec., Dr. Robert C. Cochrane, Room 37, State House, Boston 33.

Michigan:* *Examination.* Detroit and Ann Arbor, June 1954. Sec., Dr. J. Earl McIntyre, 202-4 Hollister Bldg., Lansing 8.

Mississippi: *Reciprocity.* Jackson, December. Assistant Secretary, Dr. R. Whitfield, Old Capitol, Jackson 113.

Montana: *Reciprocity.* Helena, April 5. *Examination.* Helena, April 6-7. Sec., Dr. S. A. Cooney, 214 Power Block, Helena.

Nebraska:* *Examination.* Omaha, June 1954. Director, Mr. Husted K. Watson, 1009 State Capitol Bldg., Lincoln.

Nevada:* *Examination and Reciprocity.* Reno, Jan. 6. Sec., Dr. George H. Ross, 112 Curry St., Carson City.

New Hampshire: *Examination and Reciprocity.* Concord, March 10. Sec., Dr. John S. Wheeler, 107 State House, Concord.

New Mexico:* *Examination and Reciprocity.* Santa Fe, April 12-13. Sec., Dr. R. C. Derbyshire, 227 E. Palace Ave., Santa Fe.

New York: *Examination.* Albany, Buffalo, Syracuse and New York City, Feb. 16-19. Sec., Dr. Stiles D. Ezell, 23 S. Pearl St., Albany.

North Carolina: *Reciprocity.* Winston-Salem, Jan. 18. Sec., Dr. Joseph J. Combs, 716 Professional Bldg., Raleigh.

North Dakota: *Examination.* Grand Forks, Jan. 6-9, 1954. *Reciprocity.* Grand Forks, Jan. 9. Sec., Dr. C. J. Glaspel, Grafton.

Ohio: *Examination.* Columbus, Dec. 17-19. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus 15.

Oklahoma:* *Examination.* Oklahoma City, June 9-10. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

Oregon:* *Examination.* Portland, Jan. 4-5. *Reciprocity.* Portland, Jan. 14-16. Sec., Mr. Howard I. Bobbitt, 609 Failing Bldg., Portland.

Pennsylvania: *Examination.* Philadelphia, January 1954. Acting Secretary, Mrs. Margaret G. Steiner, Box 911, Harrisburg.

Rhode Island:* *Examination.* Providence, Jan. 7-8. Admin. of Professional Regulation, Mr. Thomas B. Casey, 366 State Office Bldg., Providence.

South Dakota:* *Examination.* Sioux Falls, Jan. 19-20, 1954. Reciprocity can be obtained at any time between meetings of board. Executive Secretary, Mr. John C. Foster, 300 First National Bank Bldg., Sioux Falls.

Tennessee:* *Examination.* Memphis, Dec. 16-17. Sec., Dr. H. W. Qualls, 1635 Exchange Bldg., Memphis.

Vermont: *Examination.* Burlington, Feb. 1954. Sec., Dr. F. J. Lawliss, Richford.

Washington:* *Examination.* Seattle, Jan. 10-13. *Reciprocity.* Seattle, Jan 10. Sec., Mr. Edward C. Dohm, Department of Licenses, Olympia.

West Virginia: *Examination and Reciprocity.* Charleston, Jan. 11-13 Sec., Dr. N. H. Dyer, State Office Bldg., Charleston 5.

Wisconsin:* *Examination and Reciprocity.* Madison, Jan. 12-14, 1954. Sec., Dr. A. G. Koehler, 46 Washington Blvd., Oshkosh.

Wyoming: *Oral Examination and Reciprocity.* Cheyenne, Feb. 1. Sec., Dr. Franklin D. Yoder, State Office Bldg., Cheyenne.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Alaska: On application. Juneau or other towns in Territory as decided by Board. *Reciprocity.* On application. Sec., Dr. C. Earl Albrecht, Box 1931, Juneau.

Arizona: *Examination.* Tucson, Dec. 15. Sec., Mr. H. D. Rhodes, University of Arizona, Tucson.

Connecticut: *Examination.* New Haven, Feb. 13. Address: State Board of Healing Arts, 52 Whitney Ave., New Haven 10.

Iowa: *Examination.* Des Moines, Jan. 12. Sec., Dr. Ben H. Peterson, Coe College, Cedar Rapids.

Michigan: *Examination.* Detroit and Ann Arbor, Feb. 12-13. Sec., Mrs. Anne Baker, 410 W. Allegan St., Lansing 15.

Minnesota: *Examination.* Minneapolis, Jan. 5-6. Sec., Dr. Raymond N. Bieter, 105 Millard Hall, Minneapolis 14.

Nevada: *Examination.* Reno, Jan. 5. Sec., Dr. Donald G. Cooney, Box 9005, University of Nevada, Reno.

New Mexico: *Examination.* Santa Fe, Jan. 17. Sec., Miss Marguerite K. Cantrell, Box 1522, Santa Fe.

Oklahoma: *Examination.* Oklahoma City, April 16-17. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

Oregon: *Examination.* Portland, March 6, June 5, Sept. 11 and Dec. 4. Sec., Mr. Charles D. Byrne, State Board of Higher Education, Eugene.

Tennessee: *Examination.* Memphis, Dec. 30-31. Sec., Dr. O. W. Hyman, 874 Union Ave., Memphis 3.

Texas: *Examination.* April 1954. Location determined by number of applicants from different sections of the state. Sec., Brother Raphael Wilson, C.S.C., 407 Perry-Brooke Bldg., Austin.

Washington: *Examination.* Seattle, Jan. 6-7. Sec., Mr. Edward C. Dohm, Department of Licenses, Olympia.

Wisconsin: *Examination.* Madison, April 3. Final date for filing application is March 26. Sec., Dr. W. H. Barber, 621 Ransom St., Ripon.

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*Basic Science Certificate required.

DEATHS

Halford, Francis John ⊕ Honolulu, Hawaii; born in Cherokee, Iowa, Feb. 11, 1902; University of Pennsylvania School of Medicine, Philadelphia, 1926; in 1950 first vice-president of the Pan Pacific Surgical Association; member of the House of Delegates of the American Medical Association in 1946 and in 1948; past president of the Honolulu County Medical Society; chief of National Board of Medical Examiners for the Territory of Hawaii; president of the library board of governors, Honolulu County Medical Library 1947-1948 and in 1950; formerly secretary of the Hawaii Territorial Medical Association; member of the American Association for the Study of Trauma, Industrial Medical Association, American Public Health Association, American Society for the Study of Sterility, and the Honolulu Surgical Society; fellow of the American College of Surgeons; medical director of the Kamehameha Schools for Boys and Girls, 1929-1949; on the visiting staff, Queen's Hospital; on the courtesy staff, Kapiolani Maternity and Gynecological Hospital, Kauikeolani Children's Hospital, and St. Francis Hospital; died in San Francisco Oct. 1, aged 51, of heart disease.

Overton, Frank ⊕ East Patchogue, N. Y.; born in Bellport, N. Y., Dec. 29, 1867; College of Physicians and Surgeons, medical department of Columbia University, New York, 1893; past president of the Suffolk County Medical Society, of which he was secretary from 1902 to 1925; past president of the Associated Physicians of Long Island and the New York State Health Officers Association; served during World War I; for many years health officer of the town of Brookhaven and the village of Patchogue; district state health officer for Long Island from 1914 to 1923; formerly editor of the *New Jersey State Journal of Medicine, New York State Journal of Medicine,* and the *Long Island Medical Journal;* joint author of "Health Officer"; in 1917 received the degree of doctor of public health from New York University and in 1919 an honorary degree of doctor of science, Lafayette College, Easton, Pa.; clerk of the Patchogue Congregational Church and wrote a history of the church that was published a few years ago; died in the Pilgrim State Hospital in Brentwood Oct. 10, aged 85, of arteriosclerosis.

Crosby, Edward Harding ⊕ Hartford, Conn.; born in Hartford, March 27, 1901; Yale University School of Medicine, New Haven, 1928; certified by the National Board of Medical Examiners; specialist certified by the American Board of Orthopaedic Surgery; member of the American Academy of Orthopaedic Surgeons; fellow of the American College of Surgeons; served during World War II; formerly a member of the board of the State Board of Examiners for Physiotherapy Technicians; orthopedic surgeon, J. J. McCook Memorial Hospital; member of the orthopedic staff, Hartford Dispensary; chief of orthopedic surgery, State of Connecticut Veterans' Home and Hospital, Rocky Hill; assistant in orthopedic surgery, St. Francis Hospital in Hartford and Newington (Conn.) Home and Hospital for Crippled Children; consultant, orthopedic staff, Litchfield County Hospital in Winsted; died Sept. 14, aged 52.

McLean, Isaac William, Charlotte, N. C.; born in Charlotte, N. C., Nov. 15, 1880; Baltimore Medical College, 1907; physician and surgeon of the Isthmian Canal Commission, Panama Canal Zone, from 1908 to 1912; surgeon in charge of the United Fruit Hospital in Panama from 1913 to 1918; served in the medical corps of the U. S. Army, 1918-1919, and from 1919 to 1943 was superintendent of the medical department, United Fruit Company Hospital, Kingston, Jamaica, British West Indies, where he was on the staff of St. Joseph Sanitarium and the Kingston General Hospital; died in Presbyterian Hospital Sept. 20, aged 72, of heart disease.

Brown, Alexander Gustavus Jr. ⊕ Richmond, Va.; born in Ashland, Va., Aug. 31, 1873; University College of Medicine, Richmond, 1898; specialist certified by the American Board of Internal Medicine; fellow of the American College of Physicians; formerly on the faculty of the Medical College of Virginia; past president of the Richmond Academy of Medicine; served on the staffs of the Medical College of Virginia, Hospital Division, and Stuart Circle Hospital, of which he was president; for many years editor of the *Virginia Medical Monthly;* died Sept. 16, aged 80, of cerebral hemorrhage.

Goldsmith, Norman Robin ⊕ Lancaster, Pa.; born in Pittsburgh June 15, 1907; University of Pennsylvania School of Medicine, Philadelphia, 1931; specialist certified by the American Board of Dermatology and Syphilology; member of the American Academy of Dermatology and Syphilology and the American Public Health Association; during World War II acting assistant surgeon in the dermatoses investigations section, U. S. Public Health Service; affiliated with St. Joseph's Hospital; author of a mystery novel; formerly associate editor of the *Pittsburgh Medical Bulletin;* died Oct. 8, aged 46, of multiple sclerosis.

Apking, Albert Carl, Chicago; Bennett Medical College, Chicago, 1912; charter member of the Garfield Park Community Hospital staff; died Oct. 24, aged 72.

Barr, Frank Ellis, Starkville, Miss.; University of Virginia Department of Medicine, Charlottesville, 1908; served during World War I; died Oct. 3, aged 68.

Beattie, Joseph Hoyt ⊕ Dobbs Ferry, N. Y.; New York Homeopathic Medical College and Hospital, New York, 1902; served during World War I; member of the Association of Military Surgeons of the United States; affiliated with Dobbs Ferry Hospital, of which he was past president; died at sea aboard the liner Mauretania while en route to Europe Aug. 16, aged 73, of coronary thrombosis.

Blood, Hiram Isaac, Corning, Ark.; Eclectic Medical College, Cincinnati, 1914; died while on a train station platform Sept. 19, aged 74, as the result of a skull fracture received when he was hit by a mail sack tossed from a train.

Bosworth, Ralph Lyman, Corvallis, Ore.; University of Colorado School of Medicine, Denver, 1912; fellow of the American College of Surgeons; on the honorary staff of the Good Samaritan Hospital; died Sept. 14, aged 63, of cerebral hemorrhage.

Brody, Myer, Cleveland; Jefferson Medical College of Philadelphia, 1904; affiliated with Mount Sinai Hospital; died Sept. 5, aged 70, of coronary thrombosis.

Brown, Archie Lee ⊕ Salt Lake City; Jefferson Medical College of Philadelphia, 1908; for many years affiliated with Dr. W. H. Groves Latter-Day Saints Hospital; president and director of the State Savings and Loan Association of Salt Lake City; died Sept. 19, aged 69, of carcinoma of the colon.

Chapman, Walter Irving Jr. ⊕ Bayonne, N. J.; Cornell University Medical College, New York, 1934; specialist certified by the American Board of Surgery; served during World War II; affiliated with Jersey City Medical Center and St. Francis Hospital in Jersey City and Bayonne Hospital; died in the Baker Pavilion of New York Hospital Sept. 27, aged 43, of glioma.

Crabb, George Melville ⊕ Mason City, Iowa; Rush Medical College, Chicago, 1910; member of the House of Delegates of the American Medical Association in 1919; member of the Industrial Medical Association; fellow of the American College of Surgeons; past president of the Cerro Gordo County Medical Society; for many years member and president of the school board; affiliated with Park Hospital; a trustee of Grinnell (Iowa) College; died Sept. 16, aged 70.

⊕ Indicates Member of the American Medical Association.

Dale, Peter Hoffer ⊕ State College, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1907; member of the House of Delegates of the American Medical Association in 1946; an associate of the American College of Physicians; served in France during World War I; affiliated with Centre County Hospital in Bellefonte, where he died Aug. 15, aged 75, of coronary occlusion.

Davenport, Charles Albert ⊕ Newton, Mass.; Harvard Medical School, Boston, 1894; on the courtesy staff of Newton-Wellesley Hospital in Newton Lower Falls; died Sept. 28, aged 87, of myocardial degeneration.

Dotson, Charles Harvey, Danville, Ark.; Kansas City College of Medicine and Surgery, Kansas City, Mo., 1924; St. Louis College of Physicians and Surgeons, 1926; died in Arkansas Tuberculosis Sanatorium in State Sanatorium Sept. 23, aged 65, of tuberculosis.

Duden, William Robert, Palo Alto, Calif.; University of Rochester School of Medicine and Dentistry, Rochester, N. Y., 1939; formerly affiliated with the Palo Alto Hospital; died in Detroit, Mich., Sept. 23, aged 44, of congestive heart failure.

Gahagan, Wiley W. ⊕ Coushatta, La.; Memphis (Tenn.) Hospital Medical College, 1911; died Sept. 15, aged 72, of acute myelogenous leukemia.

Goldschmidt, Myer ⊕ New Britain, Conn.; Medical College of Virginia, Richmond, 1938; served as a battalion surgeon with the Third Army in Europe during World War II and was awarded the Bronze Star and five battle stars; affiliated with New Britain General Hospital and New Britain Memorial Hospital, where he was president of the staff from 1948 to 1950; died June 5, aged 42, of myocardial infarction.

Greenwalt, Kenneth E., Canton, Ohio; Ohio State University College of Medicine, Columbus, 1929; on the courtesy staff of Mercy Hospital; on the staff of the Aultman Hospital, where he died Sept. 24, aged 49, of astrocytoma of the brain.

Gunn, John William, Watervliet, Mich.; Louisville (Ky.) Medical College, 1894; died in Kalamazoo Oct. 2, aged 83.

Haynes, Charles Elmer ⊕ New York City; University of Oklahoma School of Medicine, Oklahoma City, 1915; affiliated with Woman's, Fordham, and St. John's hospitals and Union Hospital, where he died Sept. 28, aged 64, of coronary thrombosis.

Heichler, Joseph ⊕ New York City; Medizinische Fakultät der Universität, Vienna, Austria, 1913; died in the Bronx Hospital Sept. 12, aged 69, of heart disease.

Hemminger, John Ross ⊕. Somerset, Pa.; University College of Medicine, Richmond, 1901; past president of the Somerset County Medical Society; during World War II affiliated with Veterans Administration Hospital in Hines, Ill.; died Aug. 27, aged 77, of bronchopneumonia.

Herring, Harold Mandeville ⊕ Mount Vernon, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1912; specialist certified by the American Board of Physical Medicine and Rehabilitation; member of the American Society of Physical Medicine; affiliated with Lawrence Hospital in Bronxville, United Hospital, Port Chester, and Tarrytown (N. Y.) Hospital; died Oct. 8, aged 65, of coronary thrombosis.

Jonez, Hinton Denny ⊕ Tacoma, Wash.; University of Oregon Medical School, Portland, 1913; member of the American College of Allergists and the American Academy of General Practice; medical director of the multiple sclerosis clinic at St. Joseph Hospital; died Oct. 11, aged 63.

Jordan, Thomas Scott ⊕ Magnolia, Ark. (licensed in Arkansas in 1903); died in the Physicians and Surgeons Hospital, Shreveport, La., Sept. 24, aged 79, of pulmonary embolism.

Kenney, Joseph Raymond ⊕ Pittsburgh; Rush Medical College, Chicago, 1930; served during World War II; on the staff of the Westinghouse Electric Corporation; died in St. Joseph's Hospital Sept. 21, aged 56, of acute coronary occlusion.

Landauer, Seward L., Little Rock, Ark.; Rush Medical College, Chicago, 1901; died Oct. 3, aged 77, of concussion of the brain as the result of a fall.

Lilien, Adolph Abraham ⊕ New York City; Medizinische Fakultät der Universität, Vienna, Austria, 1917; affiliated with Mount Sinai Hospital; died Sept. 13, aged 65.

Malone, Franklin Jefferson ⊕ Clarksville, Tenn.; University of Tennessee College of Medicine, Memphis, 1923; served during World War I; member of the American Public Health Association; for 29 years with the Tennessee State Health Department as health director for Clarksville and Montgomery County; died Sept. 7, aged 61, of arteriosclerotic heart disease and auricular fibrillation.

Moloney, Bernard Aloysius ⊕ Upper Sandusky, Ohio; Starling Medical College, Columbus, 1907; died Oct. 6, aged 71.

Nelson, Kenneth Oliver, Chicago; University of Chicago School of Medicine, Chicago, 1947; served during World War II; resident in surgery at St. Luke's Hospital; died in the Evanston (Ill.) Hospital Oct. 24, aged 30.

O'Connell, John Patrick ⊕ Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1906; for many years chief medical examiner of the Chicago Civil Service Commission; past president of the International Association of Police and Fire Surgeons and Medical Directors of Civil Service Commissions; died Oct. 20, aged 69, of acute myocardial infarction.

O'Hara, James Francis Jr. ⊕ Canton, Ohio; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1940; affiliated with Mercy Hospital; died in Cleveland Oct. 11, aged 38.

Painton, Henry McDonald, Rockville Centre, N. Y.; Long Island College Hospital, Brooklyn, 1923; served overseas during World War I and was awarded the Croix de Guerre; affiliated with Meadowbrook Hospital in Hempstead, South Nassau Hospital, and the Mercy Hospital, where he died Oct. 6, aged 55, of cerebral hemorrhage.

Patton, Benjamin Franklin, Terre Haute, Ind.; Physio-Medical College of Indiana, Indianapolis, 1903; died in St. Anthony Hospital Sept. 28, aged 86, of general arteriosclerosis and cerebral thrombosis.

Patton, James Elmer ⊕ Cambridge, Ohio; Starling Medical College, Columbus, 1903; died Oct. 7, aged 79, of cerebral hemorrhage.

Paulsen, Niels Peter ⊕ Logan, Utah; Rush Medical College, Chicago, 1907; formerly an officer in the regular U. S. Army; at one time on the staffs of the Good Samaritan and St. Vincent's hospitals in Portland, Ore.; affiliated with Latter Day Saints Hospital; died Oct. 9, aged 69, of carcinoma of the pancreas.

Pearlman, S. Joseph ⊕ Miami Beach, Fla.; Fordham University School of Medicine, New York, 1919; specialist certified by the American Board of Urology; member of the American Urological Association; served overseas during World War II and received the Bronze Star; on the staffs of the Mercy and Victoria hospitals in Miami and Mount Sinai Hospital; died in the Long Island College Hospital in Brooklyn Oct. 6, aged 57, of acute yellow atrophy of the liver.

Ramsey, Oscar Lee ⊕ Gretna, Va.; University College of Medicine, Richmond, 1905; in March, 1946, was proclaimed the outstanding citizen of Pittsylvania County by the Lions Club of Chatham; for many years president of the Peoples Bank of Gretna; died in the University of Virginia Hospital in Charlottesville Oct. 1, aged 79, of carcinoma of the bladder and uremia.

Redditt, George Irby ⊕ McCarley, Miss.; Medical Department of Tulane University of Louisiana, New Orleans, 1889; died in Morgan City Oct. 1, aged 90.

Robinson, Schuyler C., Liberty, Tenn.; Chattanooga (Tenn.) Medical College, 1900; died in the Martha Gaston Hospital, Lebanon, Sept. 26, aged 78.

Sargent, William Henry, Oakland, Calif.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1905; specialist certified by the American Board of Radiology; member of the Radiological Society of North America, American College of Radiology, and the American Radium Society; affiliated with Samuel Merritt Hospital and Children's Hospital of the East Bay; died July 29, aged 71, of acute myocardial infarction.

Schmitz, Henry Charles ⊕ Des Moines, Iowa; Jefferson Medical College of Philadelphia, 1912; an associate on the staffs of Iowa Lutheran, Iowa Methodist, and Broadlawns General hospitals; on the staff of the Mercy Hospital, where he died Sept. 27, aged 70.

Schon, Edward ⊕ Lynn, Mass.; College of Physicians and Surgeons, Boston, 1912; for many years school physician; served on the board of trustees of the Lynn Public Library; died in the Lynn Hospital Oct. 1, aged 64.

Scott, Paul Newton ⊕ Lebanon, Ore.; University of Colorado School of Medicine, Denver, 1942; served during World War II; died Sept. 23, aged 38, of acute coronary occlusion.

Sheppard, Dempsey Orville ⊕ Barnesville, Ohio; Starling Medical College, Columbus, 1897; past president of the Belmont County Medical Society; served during World War I; affiliated with Barnesville Hospital, where he died Sept. 30, aged 86.

Snell, N. Russell ⊕ Chicago; Loyola University School of Medicine, Chicago, 1921; died in Hollywood, Fla., Oct. 22, aged 63.

Sours, Burton Osmond ⊕ Akron, Ohio; Ohio State University College of Medicine, Columbus, 1927; affiliated with People's Hospital, where he died Sept. 24, aged 60, of Alzheimer's disease and carcinoma of the rectum.

Sterrett, John Kennedy, Mount Vernon, N. Y.; Western Pennsylvania Medical College, Pittsburgh, 1891; died in the Mount Vernon Hospital Oct. 11, aged 84.

Stevens, George Michael ⊕ Los Angeles; Rush Medical College, Chicago, 1894; member of the American Public Health Association; formerly epidemiologist for the city health department; died in the Hollywood Presbyterian Hospital Sept. 22, aged 83, of abscess of right lung, pulmonary infarction, varicose veins, and ruptured appendix.

Storz, Christian, Toledo, Ohio; Detroit College of Medicine, 1891; died June 25, aged 89.

Swayne, Jap F. ⊕ Indianapolis; Indiana University School of Medicine, Indianapolis, 1913; served during World War I; died in the Passavant Memorial Hospital in Chicago Oct. 7, aged 66, of acute anterior myocardial infarction and coronary sclerosis.

Taber, Martin Emerald ⊕ Dallas, Texas; Marion-Sims College of Medicine, St. Louis, 1898; an Associate Fellow of the American Medical Association; specialist certified by the American Board of Otolaryngology; died Aug. 24, aged 78.

Taylor, Leland Harris ⊕ Oakland, Calif.; Harvard Medical School, Boston, 1923; served during World War II; affiliated with Peralta, Merritt, and Providence hospitals; died in the U. S. Naval Hospital Sept. 21, aged 60, of aspiration pneumonia and hypertensive cardiovascular disease.

Thomas, Harry V. ⊕ Chillicothe, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1906; member of the American Association of Railway Surgeons; past president of the staff of Proctor Hospital; died Sept. 19, aged 70, of coronary disease.

Thomas, William, Terrell, Texas; University of Nashville Medical Department, 1905; served during World War I; formerly vice-president of the Texas Neurological Society; for many years superintendent of the Rusk State Hospital and Terrell State Hospital; until 1950 superintendent of the Mexia State School in Mexia; died June 30, aged 71, of arthritis.

Tillman, William Gilbert ⊕ Easton, Pa.; Medico-Chirurgical College of Philadelphia, 1906; at one time vice-president of the Medical Society of the State of Pennsylvania; member of the emeritus staff and past president of the medical staff, Easton Hospital, where he died Sept. 11, aged 72, of cardiovascular disease.

Trigger, Harry W. ⊕ Bartonville, Ill.; Chicago College of Medicine and Surgery, 1913; member of the American Psychiatric Association; for many years affiliated with Peoria (Ill.) State Hospital; served on the staffs of St. Joseph's Hospital and Mennonite Hospital in Bloomington, where he died Oct. 10, aged 68, of cerebral thrombosis, arteriosclerosis, and hypertension.

Trimbo, Joseph Henry ⊕ Chelsea, Iowa; Keokuk Medical College, College of Physicians and Surgeons, 1904; also a graduate in pharmacy; died in Cedar Rapids, Aug. 18, aged 80.

Ulrich, Julius Hirsch, Peoria, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1901; also a graduate in pharmacy; served as examiner on the Selective Service Board during World War II until his retirement in 1944; for many years on the staff of the Proctor Hospital; died in the Methodist Hospital Sept. 15, aged 77.

Ungard, William Thomas ⊕ Xenia, Ohio; University of Cincinnati College of Medicine, 1927; past president of the Greene County Medical Society; affiliated with Greene Memorial Hospital, where he died Sept. 11, aged 56, of a heart attack.

Vannatta, George Woodruff ⊕ East Orange, N. J.; University and Bellevue Hospital Medical College, New York, 1913; fellow of the American College of Surgeons; member of the Industrial Medical Association; senior staff surgeon of Montclair Community Hospital, Montclair, where he was past president of the medical and surgical staff; died in Monmouth Memorial Hospital, Long Branch, Sept. 6, aged 65, of intracerebral vascular accident.

Van Winkle, Joseph Olin, Salem, Ore.; Willamette University Medical Department, Salem, 1905; served during World War I; for many years medical officer at the Klamath (Ore.) Indian reservation; at one time on the staff of the Oregon State Hospital; affiliated with Salem General Hospital, where he died Sept. 10, aged 77, of congestive cardiac failure, cardiovascular disease and arteriosclerosis.

Warfield, Mary Cabell ⊕ Tryon, N. C.; Woman's Medical College of Pennsylvania, Philadelphia, 1922; died in Mission Hospital, Asheville, Aug. 26, aged 58, of carcinoma of the uterus.

Waufle, Guy Clifford ⊕ Janesville, Wis.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1903; died in the Mercy Hospital June 18, aged 76, of left ventricular failure.

Webb, Rollin Edward ⊕ Lancaster, N. H.; Medico-Chirurgical College of Philadelphia, 1902; died Aug. 13, aged 77, of carcinomatosis.

Wegrocki, Adolph A., Newark, N. J.; Temple University School of Medicine, Philadelphia, 1927; formerly assemblyman from Essex County; assistant surgeon for the city fire department; on the staff of the Presbyterian Hospital; medical director of the Newark plant of the U. S. Steel Supply; died Sept. 27, aged 52, of carcinoma of the lung.

Westphal, Henry Gustave ⊕ Glendale, Calif.; American Medical Missionary College, Battle Creek, Mich., and Chicago, 1905; member of the American Academy of General Practice; fellow of the American College of Surgeons; affiliated with Physicians and Surgeons Hospital, Behrens Memorial Hospital, and Glendale Sanitarium and Hospital, where he died Sept. 2, aged 72, of hypertensive heart disease and diabetes mellitus.

White, Marvin Spears ⊕ Hamilton, Ala.; Louisville Medical College, 1903; served as county health officer; veteran of World War I; died Oct. 5, aged 74, of volvulus and bronchopneumonia.

GOVERNMENT SERVICES

ARMY

Influenza Vaccination.—American troops in certain overseas commands will be given anti-influenza vaccine this year, according to an announcement Oct. 26 by the Department of the Army. According to the Surgeon General, troops in Alaska, Europe, and the Far East will be given immunization during November. In addition, between Nov. 15 and March 31, troops designated as overseas replacements will be given influenza protection at ports of embarkation in the United States prior to sailing. The Surgeon General declared: "Experience during the 1952-1953 respiratory disease season, as in other years, demonstrated that effective use of influenza vaccine results only when it is administered prior to the onset of epidemics."

Medical Officers Receive Awards.—Three Army medical officers received awards Nov. 11, during the annual meeting of the Association of Military Surgeons of the United States. Col. Norman W. Elton, commanding officer, Chemical Corps Medical Laboratories, received the Louis Livingston Seaman prize for two papers, published in the *Military Surgeon,* entitled "Anticipated Progress of Sylvan Yellow Fever in Nicaragua: Plan for Attempt to Block Its Course in Honduras," and "Project to Block Progress of Jungle Yellow Fever in Northern Nicaragua and Its Calculated Risk of Failure." The Louis Livingston Seaman prize consists of an honorarium of $160 endowed in 1900 by the late Dr. Seaman, surgeon for the first U. S. volunteers during the Spanish-American War.

Major Wallis L. Craddock, Medical Corps Reserve, received the Welcome award for an essay entitled "An Evaluation of Pulmonary Features of Systemic Fungus Diseases," which will be published in the *Military Surgeon* in January, 1954. Major Craddock received the award from the trustees of the estate of Sir Henry Welcome, who founded the annual competition in 1916. Col. Douglas B. Kendrick, Surgeon, U. S. West Point Military Academy, along with Capt. Lloyd R. Newhouser (MC), U. S. Navy, chief of the professional division, Bureau of Medicine and Surgery, received the Gorgas award for research on blood and plasma substitutes during World War II. This award, in memory of Major Gen. William C. Gorgas, who was largely responsible for the elimination of yellow fever from the Canal Zone, consists of a medal, scroll, and an honorarium of $500.

NAVY

Courses for Naval Reserve Personnel.—Training courses of two weeks' duration for male Naval Reserve medical department personnel will be conducted during January, February, and March, 1954, as follows:

Insect and Rodent Control.—Classes are scheduled to convene at the Naval Air Station, Jacksonville, Fla., on the first and third Wednesday of each month. The 1st, 3rd, 4th, 5th, 6th, 8th, and 9th naval districts and the Potomac River Naval Command have been assigned quotas for this course.

Malariology and Insect Control.—Personnel of the 11th, 12th, and 13th naval districts are eligible to attend this course at the Naval Air Station, Alameda, Calif. Convening dates may be obtained from the commanding officer, Naval Air Station, Alameda.

These courses have been designed to familiarize reserve medical department personnel with the techniques and problems of these specialized fields of naval medicine. Eligible personnel desiring to attend in a pay status should submit their requests to the commandant of their home naval districts at the earliest practicable date. Participation in these courses will not increase the possibility of orders to extended active duty.

AIR FORCE

School of Aviation Graduates.—A class of medical officer was graduated Oct. 23 at the Air Force School of Aviatio Medicine, San Antonio, Texas. Brig. Gen. Edward J. Ker dricks, commandant of the school, awarded diplomas to th surgeons, including one British and one Canadian officer. Th graduation address was delivered by Col. Benjamin A. Strick land Jr., recently relieved as commander of the school's branc installation in Alabama to accept a new post at headquarter of the Twelfth Air Force in Europe. Although the class i cludes 37 officers who have had some World War II servic their average age is only 27. Though all have taken medica degrees and completed their internships, a dozen are just 2 years old. In the older group are 10 rated pilots, three forme navigators, and a bombardier, who gave up flying to stud flight medicine. Thirty of these graduates have received ove seas orders. The remaining USAF surgeons will be statione at Air Force medical units in this country for the present.

PUBLIC HEALTH SERVICE

New International Vaccination Certificate.—A new Interna tional Certificate of Vaccination has been issued by the Publi Health Service to replace the old International Certificate o Inoculation and Vaccination form. The old form is valid unti the expiration date of recorded vaccinations. When a travele applies for a passport the new certificate will be issued by th offices of clerks of the court and passport agencies of th Department of State in Boston, Chicago, New Orleans, Ne York, and San Francisco. The following principal change were made in the new form: 1. Smallpox and cholera vac cination certificates must bear the approved stamp called fo on the certificate. The signature of the certifying officer is n longer necessary, and signature alone is not acceptable. 2. Th smallpox certificate becomes valid immediately on revaccina tion. Primary vaccinations must be inspected and the result recorded. 3. The period of validity for the yellow feve vaccination certificate has been extended from four to si years. 4. The cholera certificate becomes valid beginning si days after the first injection or immediately in the case o revaccination. The new certificate may be purchased from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., at a cost of 5 cents per copy or $2.50 per 100.

Contracts to Abate Water Pollution.—During the second quarter of 1953, municipalities awarded contracts for 204 projects to abate water pollution and conserve water resources, according to the Public Health Service. The $64,600,000 represented by these public sewage treatment plant projects was more than double the amount for the contracts of the preceding quarter, and 55% greater than that reported in the corresponding 1952 period. Of the 204 projects, 118 are new plants, and 86 are additions, enlargements, or replacements.

Pointing out that 70 million people receive their drinking water from lakes and streams which are also used to carry away sewage and industrial wastes, Dr. Leonard A. Scheele, Surgeon General of the Public Health Service, said, "The safeguarding of our water resources is an important factor in the protection of health. The solution of this basic problem is the responsibility of the cities and industries of the Nation, and while progress being made through their efforts and those of the State water pollution control agencies is encouraging, it has not yet reached the level necessary to meet the growing needs."

FOREIGN LETTERS

BRAZIL

Amino Acids and Malaria.—In a paper published in *Anais Paulistas de Medicina e Cirurgia* (66:95 [Aug.] 1953) Dr. Ernest Schroeder, who lived for many years in China, reported the following facts. 1. Many tropical observers have commented on the part food plays in the control of malaria (the mechanism of this control is not known). 2. The ancient Chinese treated malaria with hydrolysed turtle shell and cow horn, which consist chiefly of amino acids, and thereby reduced the number of circulating plasmodia. 3. A mixture of tyrosine, beta-alanine, leucine, and cystine given by mouth caused clinical improvement in six patients with mild malariae malaria (nine weeks of administration in one case suppressed the infection; one patient became afebrile; and swollen spleens assumed normal size). 4. Injection of 50 mg. each of taurine and beta-alanine diminished the number of circulating parasites in 10 patients with malaria. 5. Beta-alanine in the pure form seemed effective in five patients (pantothemic acid was disappointing in one case tested, probably because its content in beta-alanine is low; carnosine, a derivative of beta-alanine given as meat extract, seems to act as a weak antimalarial). 6. Pure cystine in doses of from 100 to 200 mg. twice or three times daily elicited favorable responses in four patients (to taurine, an oxidation product of cystine, can be attributed a certain degree of suppressive value). These substances are an adjunct to the usual chemotherapeutic agents.

Gallbladder in Left Upper Quadrant.—A gallbladder located in the left upper quadrant of the abdomen in a patient without visceral inversion and proved by roentgenograms was described by Dr. Túlio Montenegro, of the University of Recife, in the *Revista Brasileira de Gastroenterologia* (4:839, 1952). He was able to find only 14 such cases in the literature.

Chagas' Disease in Childhood.—A paper published in the *Arquivo de Higiene e Saude Pública* stressed the seriousness of American trypanosomiasis (Chagas' disease) in children, which, far from being rare, is frequently found in rural zones infested by triatomes. The diagnosis of this disease without laboratory aid is very difficult. The authors obtained their data from an epidemiological survey of 2,210 children up to 10 years of age in 61 counties of São Paulo; 311 (14.7%) gave a serological reaction between 1+ and 4+. Because of the complexity of the test, Unti and his co-workers consider a 1+ or 2+ reaction as doubtful. Although only 21% of the 311 positive reactions in this study were in the frankly positive category, this survey should serve to call to the attention of the health authorities the importance of this disease in children.

Pancreatites and Leptospirosis.—Two cases of acute pancreatitis associated with leptospirosis icterohemorrhagiae were reported by Prof. João Alves Meira and Antonio Ulhoa Cintra and Drs. Aguiar Tartari, Bernardo Leo, Ricardo Veroneri, and Oswaldo Boehmer, of the university in a paper read before the department of medicine of the Associação Paulista de Medicina. The serum amylase and lipase levels in these patients were elevated. The serum agglutination for Leptospira icterohemorrhagiae was positive. The first patient, who presented radiological signs of acute pancreatitis, recovered but the other died. An autopsy confirmed the diagnosis. Areas of peripancreatic fat-tissue necrosis with an inflammatory infiltration where polymorphonuclear neutrophils predominated were found in the pancreas. The infiltration invaded the surrounding pancreatic tissue. The authors found only one report (five cases) of this complication in the literature.

ENGLAND

A Review of General Practice.—In 1950 the council of the British Medical Association appointed a special committee "to review the present position in general practice, its difficulties and its trends . . . and to make recommendations." The committee's report (*Brit. M. J.* [Sept. 26] 1953) is based on visits to 188 practitioners and a questionnaire completed by about 13,000 physicians. Of those visited, 93% "carried out some sort of examination in some cases," and 69% made whatever examination was necessary on all patients. Among 7% "there is a need for revision of the methods of diagnosis they use. . . . [they] do not seem to examine their patients except as a rarity." A surprising tendency to examine the abdomen through clothing and with the patient standing was noted. No examination couch was found in 11 surgeries. Over 90% of the practitioners seen were careful in the treatment of patients. Over 50% did little or no minor surgery. This proportion was much higher in the towns (73%) than in rural areas (40%). The reasons oftenest given for not doing minor surgery were lack of time and absence of a special fee.

Only 4% had found that the scope of their practices had benefited by changes in, or increased, cooperation by the public health service since the introduction of the National Health Service; 40% reported little or no contact with the service; and 41% said that their relations were satisfactory. As an example of what is described as "a deplorable lack of contact between the two branches of the profession," the case was cited of the medical officer of health of a large town who, in the middle of a widespread epidemic of influenza, issued a statement in the press that there was no epidemic in the city! Much criticism was heard of public health clinics and the medical officers working in them. Much criticism was also heard of public education on health matters; only 13% of the physicians thought that it might be beneficial.

Forty-five per cent applauded "the fact that their scope in practice has been widened by the introduction of the N. H. S. Not all of these applaud, or even like, the N. H. S. itself; but on one point they are clear—that they can do more for their patients." Although only 10% believed that a gap was being caused by the separate administrative arrangements under the National Health Service for general practitioners and consultants, many practitioners thought that consultants regard themselves as superior beings. It was often complained that "the younger consultant is on the defensive in order to conceal an inferiority complex . . . is interested in the scientific side and does not handle patients well." Twenty-three per cent said that all consultants should have experience in general practice as part of their training.

The view was expressed that "one of the potent causes of harm to the doctor-patient relationship is inadequate liaison between the hospital and the general practitioner." For instance, it is usually two or three weeks after the patient's discharge from the hospital before his physician receives a report from the hospital. A case was cited of a woman who, after a miscarriage, was discharged from the hospital the day after admission; the practitioner was not informed. Lack of knowledge of conditions in general practice is responsible for some of the trouble as in the case of a woman sent home 10 days after delivery and told to apply treatment to her baby's eyes every 15 minutes night and day! Lack of thought is another contributory factor as in the case of a young consultant who said that a patient's condition might be due to sleeping tablets prescribed by the general practitioner. "This patient and his family have now left the general practitioner and will probably influence other of his patients in the village to do the same."

Although most practitioners are agreed that the attitude toward them of at least some of their patients has deteriorated since the introduction of the National Health Service, no "proof of the current statement suggesting a wholesale dis-

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The items in these letters are contributed by regular correspondents in the various foreign countries.

appearance of friendly relations was found." The tendency, when it exists, is for the physician to be regarded as a supplier of medicines rather than a medical adviser and was reported by about half the practitioners, though by only a few patients. One physician was quoted as saying: "Some of the patients now merely include me with their errands: rations from the grocer, a call at the shoe repairer's, and a little cough mixture at the doctor's." The effect of the National Health Service on private practice is shown by the fact that four out of every five physicians reported that few, if any, of their private patients had remained with them as such. Of those interviewed, 43% did not want to have private patients, and 35% were anxious to preserve at least some private practice.

Ten per cent of physicians' premises were considered unsuitable, "rooms are dismal and bare, dirty and inhospitable, and often totally inadequate for the number of patients attending. One doctor sees patients in a porch." On the other hand, the physician is not always to blame; "one doctor has had to bolt his waiting-room chairs together to prevent their being taken." Over 90% of the physicians were found to have the full range of essential equipment.

Of those visited, 37% were more satisfied and 42% less satisfied since the introduction of the National Health Service. The percentage of those more satisfied is higher in the youngest age group and lower in the oldest. "This finding is hardly in keeping with the inference that might be drawn from the chorus of voices heard and the letters written on the subject." Practitioners preferred the National Health Service because they "can do more for their patients, can prescribe more freely, and can visit as necessary. Also there is no bother with bills now." Although the optimum number of patients per practitioner was considered to be 2,000 in country practice and 2,500 in town practice, 13% were quite happy with 4,000. Just under a third of the practitioners considered that they were subject to an excessive number of unreasonable demands on their services.

The committee tried to assess whether physicians were laying the blame for any shortcomings on the health service when, in fact, the cause was elsewhere. Although they "did expect to find the N. H. S. made into something of a whipping boy," this was the case in only about 14% of practitioners; on the other hand, "there is an undercurrent of feeling that the organization and administration of the N. H. S. proceed on their majestic way without due regard to the general practitioner or his patient. There is confusion, or there seems to be, regarding who should be blamed for the pin-pricks and the parsimony, for this is how many of them look at it. There is often criticism of their representatives. . . . I have heard more criticism of the profession's leaders than of those with whom they are negotiating."

The reading habits of physicians were as follows: 11% read several periodicals and medical textbooks; 70% regularly read one or two medical periodicals—usually a weekly and a monthly; and 18% read very little. On the whole the results of the postal survey were in agreement with those of the field survey. The committee concluded that (1) there has been at least some deterioration in the physician-patient relationship—more marked in industrial than in rural practice; (2) physicians, on the whole, are happier in their relationships now that fee-charging and the rendering of accounts are almost entirely a thing of the past; (3) where the physician is receiving payment for each patient by a per capita fee, as at present, the relationship is better than it would be in a salaried service; and (4) the institution of payment by salary would virtually deprive the patient of the free choice of a physician. After drawing attention to a discrepancy in the results of the field survey and the postal survey, the former showing that 35 and the latter that 66% of the physicians wanted a certain amount of private practice, the committee expressed the opinion that there is room for both National Health Service and private practice.

The committee believes "that general practitioners should undertake for N. H. S. patients those minor operations which, before the Service was introduced, they performed as part of clinical treatment in the ordinary course of general practice. The habitual transfer of minor surgery to the hospitals is neither necessary nor desirable. The training of the doctor has included instruction in this work, and . . . is part and parcel of general practice." Concern was also expressed at the diminishing amount of midwifery done by general practitioners. The committee believes "that midwifery is an integral part of general practice . . . and takes its stand with those who would allow any registered medical practitioner to provide a midwifery service for his patients if he wished and who would encourage him to increase his experience."

After pointing out that the survey has not revealed that health centers are essential to the improvement of the standard of general practice, the committee expressed the view that further experiment is desirable, including the development of health centers, in stages, from communal surgeries. The committee is in favor of group practice and considers that assistantship with a view to partnership is the best mode of entry into general practice.

In the opinion of the committee, general practitioner beds are "a desirable part of the doctor's equipment on both clinical and social grounds." These need not necessarily be in a separate hospital, but could be in a special ward allocated for the purpose in a general hospital. The committee agrees with the 81% of physicians who were in favor of some type of clinical assistantship for general practitioners. On the subject of overprescribing, the committee urges the profession to "exercise the greatest care in prescribing. . . . It should be realized by all that economical prescribing is usually good prescribing."

"The results of the surveys suggest that about half the general practitioners in the N. H. S. are reasonably happy and contented in their work, and that a similar proportion may be described as 'good' doctors." Most of the general practitioner's difficulties flow from "insufficiency of personal contact between [them] and practitioners in other branches of practice, and in the separation, in both practice and administration, of the three main branches of medicine—namely, general practice, hospital practice, and public health practice. . . . The practice of good medicine is also endangered when clinical activity has to be subordinated to administrative duties in the N. H. S. . . . The time and skill of the general practitioner are too often abused by patients who have no true need of his services or who regard him as only an intermediary to the hospital service. . . . Some of the effort which is given to public instruction in the wonders of scientific medicine and the marvels of the modern hospital service might with advantage be devoted to informing the public of the functions of the general practitioner and of the way in which his services should be sought. . . . At present there are more . . . financial advantages for the practitioner who is inclined to be superficial and who is easy with prescriptions but reluctant to sign on the chronic sick. There are too few openings and inducements for the careful, keen practitioner who likes to be thorough in his examinations and treatment and to have time for study and reflection."

FRANCE

Artificial Hibernation in Scarlet Fever.—Artificial hibernation is a new method of treatment for which the indications are being rapidly extended. On May 29 before the Medical Society of the Paris Hospitals V. de Lavergne and J. Schmitt reported a case of malignant scarlet fever treated with this method. Following the delivery of her second child, the patient contracted scarlet fever and had polypnea, delirium, a pulse of 145, and a temperature of 106.7 F. Artificial hibernation was tried. After the third day of this treatment, the patient's temperature was normal and hibernation was discontinued. During hibernation 2 million units of penicillin were given daily. On the fourth day the patient resumed consciousness; her behavior became normal; her temperature was 100 F and her pulse was 120. Three days later her temperature rose and bilateral pleurisy developed, which healed after repeated thoracentesis. According to the authors, artificial hibernation should be used in all patients with the malignant forms of scarlet fever, puerperal or pharyngeal, and probably all patients with hyperthermia, cardiac alterations, dyspnea, delirium, depression, and hemorrhages, whatever the cause.

Hibernation in Bronchopneumonia.—A frail 4-year-old child had measles, during which he developed whooping cough complicated by a severe bronchopneumonia associated with rapid respiration and cyanosis. His condition became hopeless, and F. Gomez and G. Gélin decided to use artificial hibernation. After intermittent venous perfusion using Laborit's classic "cocktail" in a dose of 0.5 cc. every 15 minutes, the child fell asleep, his respiratory rhythm stabilized, his cyanosis disappeared, and the oxygen inhalations, which had been given from the onset, could be decreased. After six hours, his temperature fell from 105.4 to 103.4 F. Ice bags were applied to his precordium, abdomen, and head. Antibiotics were given, and after 12 hours his temperature had fallen to 96.8 F and 500 cc. of the "cocktail" were again injected. After 24 hours the patient's temperature was 94.3 F and the oxygen inhalations were discontinued, but after 36 hours a relapse occurred, his temperature rose to 102.2 F, and cyanosis and tachycardia reappeared. Another "cocktail" was immediately administered and after four days the child was allowed to recover from the effects of the "cocktail." Convalescence was uneventful.

Hibernation in the Neurotoxic Condition of Nursing Infants.—On Nov. 25, 1952, R. Sorel, J. Rieunau-Serra, and H. Auban reported to the Toulouse Society for Medicine, Surgery, and Pharmacy on four patients with an extremely severe toxic condition. Classic treatment was ineffectual, these patients being children in a morbid and subcomatose condition with agitation and convulsions, severe dehydration, and cyanosis. The classical technique of hibernation was used. Three of the four children were cured. According to the authors, there are no contraindications to this treatment, but it necessitates continuous strict supervision. Appropriate antibiotic treatment should be given concurrently.

Acute Delirium Treated by Hibernation.—At the 51st Congress of French-speaking Psychiatrists and Neurologists, July 20 to 26, 1953, G. Berthier and J. Pougetoux reported a case of acute delirium cured, without sequelae, with artificial hibernation, and P. Picard, R. Lebras and P. Navarranne reported a case of severe carbon monoxide coma treated and cured with hibernation together with the encephalographic investigations pursued during the whole treatment.

Lead Poisoning.—At the Institute for Industrial Hygiene, Professor H. Desoille and Dr. C. Albaharry have resumed their study of experimental and human lead poisoning. According to them, this poisoning is much more frequent than is usually believed. It occurs under the form of various digestive disorders, spasmodic colitis, cholecystitis, cachexia, and even appendicitis, intestinal obstruction, or acute pancreatitis. Lead oxide is generally the etiological agent. The tin containing 80% lead that is used for galvanizing certain pipes is a source of danger. In a recent issue of *La Presse Médicale* (61:1247-1248 [Oct. 3] 1953), Prof. H. Desoille and Dr. Albaharry report a case of lead poisoning caused by a copper wire (used as the ground connection for a wireless set) surrounding a lead water pipe and thereby favoring electrolysis of the lead. Examination of the water from this pipe revealed the presence of 0.875 mg. of lead per liter. The patient's wife and daughter showed evidence of subclinical lead poisoning. The authors stressed the unequal sensitivity to the poison and the necessity of performing the three following tests to confirm a diagnosis of lead poisoning: search for stippling of the erythrocytes, coproporphyrinuria, and free protoporphyrin in the red blood corpuscles. They succeeded in discovering the exact cause of this patient's poisoning. Several tests of the water, performed after the copper ground wire was removed and also after a long period of stagnation of the water in the lead pipe, showed a level of 0.2 mg. of lead instead of 0.875 mg. per liter.

ITALY

Antituberculosis Vaccination.—Professor Salvioli, from the University of Bologna, discussed antituberculosis vaccination at a meeting of the medical and surgical society of the Romagna region May 10, 1953. In a brief historical review he said that Edoardo Maragliano used antituberculosis vaccination for prophylaxis and therapy as early as 1903. Maragliano's vaccine consisted of bacilli killed by heat, partially subjected to chemical disintegration, and enriched with the so-called integral poison. It was applied by scarification of the skin. The method by which it was applied was the weak point of the technique.

Several years later Calmette, who had been one of Maragliano's followers, and Guérin used a vaccine with attenuated bovine bacilli first on animals and then on men. For many years this vaccine was used orally on a large scale, especially in France. Later the percutaneous route by scarification and more recently the intradermal route were used.

Interest in prophylactic vaccination with dead bacilli was revived in 1926 following experiments by Petragnani and in 1933 when Salvioli used it on man. Petragnani's integral anatuberculin was used. A controversy arose, which is still in progress, between supporters of the vaccine consisting of attenuated living cultures and those who favored vaccination with dead cultures of bacteria that have not been deprived of their fundamental characteristics.

The supporters of Calmette's method assert that the vaccine obtained with dead bacilli induces only allergy in the organism, whereas that with living cultures not only produces allergy but prevents the onset of the infection as long as the germs of the vaccine remain alive.

The concept of a "premunition" was disproved by Salvioli in Paris in 1948. In his experiments a vaccine of the Calmette type with dead cultures yielded the same results as those obtained with Calmette's vaccine of living cultures.

In recent years some research workers have changed their opinion. In 1952 Dubrà, who had strongly supported Calmette's view, became a supporter of dead cultures vaccine. Recently the World Health Organization tuberculosis research office in Copenhagen reported that a vaccine consisting of one part of attenuated living cultures and 99 parts of dead cultures gave the same results as the best vaccine made of living cultures.

Professor Salvioli discussed vaccinal allergy. This persists in a very large percentage of cases (85 to 90%) beyond the 10th year when the dead culture vaccine is applied by the plurifocal intradermal route at the time of birth. In addition to a positive reaction to the tuberculin tests, there is also a high degree of resistance with this type of vaccination. This has been proved not only by experiments on dogs but also by numerous clinical observations. As an example he recalled the incident that occurred some years ago in the vicinity of Venice in which 14 children who had not been vaccinated against tuberculosis died of the disease while there was no death due to tuberculosis among an equal number of children of the same age in the same contagious environment who had been vaccinated.

Professor Salvioli pointed out the eutrophic effect of the vaccination and the greater resistance that vaccinated persons have even against nontuberculous diseases. This is analogous to what Weill and Werfeld had observed when the primary infection was overcome in a silent manner. He showed that the vaccination with vaccine of dead cultures of bacteria has as great a protective activity as the vaccination with Calmette's vaccine. He has been asserting since 1936 that the protection becomes manifest only after a vaccinal reaction. It is therefore necessary that a vaccinal focus be produced that will have a macroscopic and microscopic specificity and will have a complete evolution. For these reasons the doses of vaccine should be always adequate and the appropriate technique of vaccination should be followed. Scarification and tattooing are insufficient, and the vaccine should be introduced, in the proper dose, by the intradermal route.

The results obtained in Bologna on 12,000 children vaccinated at the time of birth are good. However, some pediatricians object to the necessity of making, even if simultaneously, four injections. On the other hand, the vaccinal disease caused by dead cultures vaccine differs in part from the true infection, in which there is a particular tropism of the tubercle bacilli toward the lymph nodes and the lymphatic tissue.

For these reasons Professor Salvioli has been using since 1950 a new vaccine (called Salvioli's diffusing vaccine) that consists of cultures killed by heat to which hyaluronidase has been added to give the dead cultures the migratory properties that are characteristic of living cultures. Experiments made at the Bologna pediatric clinic and a follow-up of more than 300 children vaccinated with Salvioli's diffusing vaccine gave interesting results. The studies are still in progress.

Professor Salvioli then discussed the multiple puncture vaccination that he has been using since 1938 in children with tuberculosis of the respiratory tract. He showed by means of radiograms taken by Professor Sighinolfi the good results obtained with this technique before the antibiotics became available. It is of undoubted efficacy if used properly and at the right time. Good results were obtained also in cases of osteoarticular tuberculosis and in the treatment of tuberculous meningitis when antibiotics were also used.

An animated discussion followed Professor Salvioli's report. Professor Costantini said that failure of the vaccination in skin positive persons is an indication that the allergy is not the expression of an infection but is only a particular phase during an incomplete process of immunization caused by a vaccinal focus.

Professor Lodi treated a group of infants with eczema by means of the Petragnani-Salvioli vaccine and obtained a cure in 82% of them. He observed that the sooner the vaccination was performed the greater the allergic manifestations were, thus confirming the conclusion that the Petragnani-Salvioli vaccine stimulates the allergic mechanism.

Professor D'Arcangelo spoke of the possibility of vaccine therapy with protein substances derived from cultures of tubercle bacilli. Professor Salvioli had mentioned it and had referred to it as a cellular stimulation of immunization in advanced stages of tuberculosis. He said that, in some patients in whom the tuberculous process has not been controlled by antibiosis or collapse therapy and in whom resistance to biochemotherapeutic agents has not developed, the evolution is definitely related to a negative state of immunization.

Professor Giugni compared the different characteristics of the Calmette and the Petragnani-Salvioli vaccines and said that the fact that the latter consists of dead human bacilli rather than of bovine cultures reassures the conscience of the physicians who perform the vaccination.

SWEDEN

Mass Radiography Surveys.—The mass radiography surveys that in recent years have been carried out in Sweden have demonstrated differences in the efficiency of antituberculosis work in various areas. A report published by Dr. E. Törnell on the mass radiography survey in Älvsborg County in a recent number of the quarterly journal of the Swedish National Association Against Tuberculosis shows how effective such a survey can be when the necessary measures for it are well organized. About 91% of the more than 250,000 persons over the age of 10 who were eligible for this survey were examined. About 60% of the new cases of tuberculosis discovered were found in persons between the ages of 30 and 59. About 20% were above this age, and another 20% were below it. The absentee rate was high among the elderly, and this was unfortunate in view of the prevalence of tuberculosis in old persons. About 83.6% of the persons who were found by this survey to be suffering from pulmonary tuberculosis were already on the registers of the tuberculosis dispensaries. This finding compares favorably with that of other counties, and most of the new patients had an early stage of the disease. The 401 new patients represented 0.15% of the persons examined. An important by-product of such mass surveys i the discovery of nontuberculous diseases, such as heart diseas and malignant disease, now sometimes amenable to operativ treatment. The 51 patients with malignant tumors and 75 wit benign tumors discovered represented 0.47 per 1,000 of th persons examined. Disease of the heart and blood vessels wa discovered in 585 persons, a rate of 2.16 per 1,000 person examined. The 96 patients with benign lymphogranulomatosi discovered represented 0.44 per 1,000 persons examined. Thi disease seems to be commoner in Älvsborg County than elsewhere in Sweden, and commoner in some areas than in othe parts of the county. This patchy distribution has also bee observed in the western part of the United States, where th disease has been found to be most prevalent. Dr. Törnel concluded that in spite of the trouble and costs entailed b such a survey, it serves a very useful purpose, but when ne cases of tuberculosis become still rarer it may be difficult t get the community to take a sufficiently active interest in thi measure.

Falling Infant Mortality.—More than a century ago Swede led the world in creating a professorship of pediatrics and i making the teaching of this subject compulsory in the medic schools. It was, therefore, natural enough for the subject o the Lennander lecture, delivered by Dr. Justus Ström in 195 to be "The Fall of the Infant Mortality in Sweden and th Causes Thereof." In this lecture, published with many diagrams in *Nordisk Medicin* for Sept. 17, Ström presents a imposing array of figures showing how well earned is th claim made by Sweden that its infant mortality is one of th lowest in the world. In the period 1911-1915, the infan mortality from whooping cough was 3.5 per 1,000, wherea in the period 1946-1950 it was down to 0.2. Between the sam two periods the infant mortality from measles fell from 1 t 0.02 per 1,000. This remarkable fall has been traced in pa to a decline in the virulence of both infecting organisms, bu though Ström admits that the two diseases run a milde course than they did 20 years ago, the decline in the mortalit from them should mainly be traced to the improved gener health of the community.

At present about 75% of the infant deaths occur in th first weeks of life, with congenital debility as the most important single cause. Here, there is room for improvemen particularly with regard to illegitimate infants. In Stockhol in the first half of the 19th century the mortality rate fo illegitimate infants was between 400 and 450 per 1,000, o about double that for infants born in wedlock. Since at tha time 41% of the live births in Stockholm were illegitimate the total infant mortality was appalling. Though there ha been a vast improvement since then, the investigations undertaken in 1948 by Thorën showed that the neonatal death from debility were 7.3% for the infants of the unmarried and only 3.3% for those of the married. He suggested tha attempts at criminal abortions might be partly responsible fo this difference because a medically plausible explanation fo premature births is found oftener among the married tha among the unmarried mothers. The relatively higher infan mortality in towns, as compared with rural areas, also suggests that criminal abortions are largely to blame in such cases.

One of Ström's diagrams deals with the competition between town and country over the reduction of infant mortality. Till the middle of the 1920's, the infant mortality was lower in the country, but since the turn of the century the social conditions and hygiene began to improve rapidly in the towns, with the result that they had overtaken and passed the country in the period 1936-1940. Since 1948 the towns have again lost their lead, and the infant mortality is now about the same for town and country. There has been a similar competition between different counties in the reduction of the infant mortality, with the lead being taken first by one and then by another county. Ström believes that the infant mortality can be still further reduced by means of modern drugs and antibiotics and by intensifying prenatal welfare, with special care devoted to the unmarried mother.

CORRESPONDENCE

ACUTE AND CHRONIC BACILLARY DYSENTERY

To the Editor:—Drs. Felsen and Wolarsky are to be congratulated for emphasizing the importance of bacillary dysentery. I should like to discuss three phases of their paper, acute bacillary dysentery, chronic bacillary dysentery, and their relationship to ulcerative colitis. The figures shown with respect to the increasing incidence of acute bacillary dysentery seem to be quite conclusive, but they do not conform to my recollections. One is on very dangerous grounds indeed to pit recollections against statistics, but many will recall that, in the earlier decades of this century, there were severe epidemics of bacillary dysentery in some areas and in other areas it was endemic. Certainly the infant death rate from bacillary dysentery in the first quarter of the century was high. It is exceedingly difficult for me to believe that the same condition obtains today or that the actual incidence of acute bacillary dysentery is as high in this third quarter of the 20th century as it was in the first quarter, or, indeed, in preceeding centuries. This is not meant to minimize at all the importance of bacillary dysentery, because it certainly remains, as Drs. Felsen and Wolarsky have properly pointed out, one of the great causes of morbidity today. It is an important disease that has not received adequate attention.

Chronic bacillary dysentery must be a rare disease for we have not been able to find it. Last month I had the privilege, however, of reviewing a fascinating paper in which Drs. Kositchek and Snell of California presented quite conclusive evidence of systemic and enteric infection, with multiple complications lasting over a period of several months, that was quite conclusively proved to have been due to Salmonella danysii. It may well be that there are more cases of chronic infection with Salmonella and other dysentery organisms than we have been able to find.

With respect to the relationship of these specific infections to chronic ulcerative colitis, it seems to me that again we do not know exactly what the situation is. Historically, in terms of each individual case, as Drs. Felsen and Wolarsky have pointed out, the onset of ulcerative colitis frequently simulates acute bacillary dysentery. Cultures are rarely made in this phase of the disease. It could well be that many of these patients have an initial bacillary dysentery. These authors in this and in previous presentations have brought before us very conclusive evidence that some of them do. Also in support of their view is the fact that a considerable number of patients with ulcerative colitis have a clear-cut history of Endomoeba histolytica infection at the beginning of illness with transition from acute amebic colitis to nonspecific colitis; hence, I am quite willing to accept the concept that, for a significant number of patients, acute bacillary dysentery is the primary inciting factor for chronic ulcerative colitis, and perhaps also for regional enteritis, and that the persisting inflammation and infection are due to other organisms. The main thesis of the paper, that more should be done to prevent acute and chronic bacillary dysentery, is certainly valid.

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To the Editor:—Drs. Felsen and Wolarsky have presented an interesting and provocative paper on the problem of acute and chronic bacillary dysentery and have drawn attention to the possible relationship of these conditions to chronic ulcerative colitis. My clinical experience with chronic ulcerative colitis has been limited. I should, however, like to comment on the problem of bacillary dysentery itself.

The authors suggest that the increase in reported cases of acute bacillary dysentery represents a true rising incidence of this disease. I believe, on the contrary, that this increased morbidity is apparent rather than real and that it is due to the introduction of superior laboratory methods of diagnosis and to better reporting. Authorities in this field, such as Dr. A. V. Hardy and his associates, feel that in the absence of good morbidity data the best picture of the incidence of bacillary dysentery is given by the combined mortality figures for bacillary dysentery and nonspecified dysentery. The classic field studies of these investigators have shown that the majority of these latter cases are in fact bacillary dysentery. As shown in the table, the mortality rates from these conditions have shown a steady decline during the last 20 years and in 1950 actually amounted to less than one-fifth of the corresponding figures for 1936. While part of this decline is undoubtedly due to the recent development of more effective therapeutic measures, it is difficult for me to escape the conclusion that the incidence of bacillary dysentery has declined significantly during the last 20 years in the United States.

	Bacillary Dysentery		Nonspecified Dysentery		Combined	
Year	Deaths	Rate/ 100,000	Deaths	Rate/ 100,000	Deaths	Rate/ 100,000
1930	610	0.5	2521	2.1	3131	2.6
1935	725	0.6	1429	1.1	2154	1.7
1940	1027	0.8	1195	0.9	2222	1.7
1945	506	0.4	908	0.7	1414	1.1
1950	335	0.2	447	0.3	782	0.5

Data from "Vital Statistics of the United States" published by the U. S. Department of Commerce, Bureau of the Census, Washington, D. C.

Drs. Felsen and Wolarsky rightly stress the importance of detecting the healthy carrier of dysentery bacilli as one means of controlling the spread of the disease. In my experience it has been almost useless to attempt to isolate the causative organism from specimens shipped for any distance, even if a preservative has been added as suggested. Fresh specimens, preferably collected by the anal swab technique, must be plated out immediately in order to furnish a reasonable chance of isolating dysentery bacilli.

Drs. Felsen and Wolarsky make the categorical statement that chemoprophylaxis is of no value. I do not feel that there is any valid evidence on this point. While it is true that the sulfonamide compounds are of limited value in this respect because of the not infrequent occurrence of drug-fast strains, to my knowledge there have been no adequate trials of the newer broad spectrum antibiotics—chlortetracycline (aureomycin), chloramphenicol (Chloromycetin), and oxytetracycline (Terramycin)—as prophylactic agents under controlled conditions. These agents have given dramatic results in the treatment of the disease, and the development of drug-resistant strains has not been a problem as yet. They deserve prompt and adequate trials as possible prophylactic agents under controlled conditions. Only by such means can we determine whether chemoprophylaxis is a practical procedure or not.

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BUREAU OF INVESTIGATION

THE BUSINESS OF BOLSTERING BOSOMS

Publicity concerning some surgical activities of Dr. Robert Alan Franklyn of Hollywood and New York has been the subject of a number of inquiries directed to the Bureau of Investigation of the American Medical Association. A magazine article in *Pageant* for August, 1953 (pages 68-75), wherein was described for the lay public generally a surgical procedure called "Breastplasty" (complete with before-during-and-after photographs) is the principal reason for such inquiries. A similar piece appeared as lead article in the *Southern General Practitioner of Medicine and Surgery* for April, 1953.

A white wrapper around each copy of *Pageant* invited attention in boldface type to "The Operation That Remolds Flat-Chested Women." The piece itself opened with the statement: "About 4,000,000 young American women suffer to some degree from micromastia . . . and another 10,000,000 from ptosis . . ." According to this article, Dr. Franklyn reported: ". . . In my own experience of many years as a plastic surgeon both in New York and Hollywood, I have found that at least one out of every three such women are psychologically affected, and that estimate may well be a conservative one." To continue:

"As a specialist, I began receiving so many referrals from other physicians of cases of this type that I investigated the possibility of curing micromastia and ptosis. I was able to devise a surgical technique known as Breastplasty, a relatively simple, 25-minute operation which overcomes the difficulties previously experienced in this field.

"At present, Breastplasty is available principally in Hollywood, although I also frequently operate in New York. The operation is within the budget of the average woman but, unfortunately, it is not a technique surgeons can learn out of a book. While I have had requests from many surgeons to observe the operation, there has been little opportunity for actual training in the technique."

As can well be imagined, this glowing invitation to pectoral pulchritude has caught the fancy of a good many who feel they are among the 4 million. A direct statement on this alleged number suffering from micromastia was made in the published article as though it were a well-established scientific fact, but nothing is offered to describe for the readers the identity of the poll-taker or the norms used in determining the extent of the alleged affliction. It is obvious that if certain motion picture stars in Hollywood were used as the standard, then the stated figure may well be woefully inadequate.

As for the erasure of this alleged defect from American women by means of a "relatively simple, 25-minute operation," one wonders how one operator is going to manage this single-handed. He can take care of only 7,280 if he works 10 hours a day, 7 days a week, for a solid year. One needs to extend the figures only one step further to see what frustration may face the overwhelming number of those left out.

Dr. Franklyn is further quoted in the *Pageant* article as having said:

"Finally, I would also like to offer a word of caution about two other forms of breast repair.

"For firming the breasts of young mothers, the standard technique used by many surgeons is to operate on the glandular structure itself in a series of multiple incisions. These circumscribe the nipple, then continue downward to the base of the breast and across it horizontally. Not only is the delicate glandular structure cut, but much visible scarring remains.

"For enlarging immature breasts, there is equally drastic surgery which involves a double operation. First, excess fat is removed from the region of the hips and then implanted in the breast. However, the transplanted fat will eventually become absorbed in the body tissue and the breast will relapse into its original state."

He offers instead:

"In Breastplasty, the drawbacks presented by these o two types of surgery are eliminated. In simplified steps, is how I proceed:

"1. Instead of cutting into the complicated part of breast, I make an incision of one and one-half inches in lower fold of the breast.

"2. I insert an inert soft plastic foam substance—actu a *nylon-like resilient material impregnated* with penicilli into the incision.

"3. I place this soft, foamed substance *behind* the bre over the pectoral or chest muscles. There it adds volu forcing the chest out, but it does not interfere with the c plicated glandular structure."

A plastic surgeon, in commenting on the third numbe representation, observes: "In the first place, he deposits mysterious material on the pectoral fascia; it does not co into contact with the pectoral muscle itself." Commenting the statement that this is "a relatively simple, 25-mir operation which overcomes the difficulties previously exp enced in this field," the surgeon continues:

"No operation can be predicted as to how long a time elapse between the incision, the operative procedure, and closing of the incision.

"Operative difficulties depending on many factors numerous and cannot be predicted."

The principal mystery, however, seems to be the ident of the substance used. In the report it is described as nylon-like resilient material impregnated with penicilli Inquiry to Dr. Franklyn discloses that "the substances u by me are not on the market—having been ordered s cifically from the supplier for test purposes."

It seems strange, indeed, that a material of such composit is offered to 4 million American women on the assura that it is harmless, efficient, and safe on a long-range ba Similar materials have been reported on by plastic surge who describe their animal work with polyvinyl sponge. Th report implies at least the prospect of a gristle-like devel ment in the implant which is apt not to be what most la would like to carry around with them. Grindlay and Waug *report in part:*

". . . Sponges of various size and shape were placed subcutaneous tissue in six dogs; in the same dogs a co shaped molded sponge was also placed under a bre nipple . . .

". . . Gradually the sponges became firm. The degree firmness which the sponge mass eventually had was appro mately that of a mass of fibrous tissue of the same sha and size.

"With the exception of certain experiments the implant sponges did not become fixed to surrounding tissue, ev though the sponge itself contained blood vessels and co nective tissue."

In a private communication, one of the authors (John Grindlay, M.D.) wrote the Bureau of Investigation in part follows:

". . . The conclusions reached in the paper which I Waugh and I prepared in 1951 and which appeared in t September issue of that year of the A. M. A. Archives Surgery, viz., that long-term experiments are necessary befo polyvinyl sponge can be given unqualified approval for clinic use and that one must appreciate that an implanted spon will become a piece of fibrous tissue and thus less resilie and firmer, still hold. . . ."

In another such communication, a copy of which was su mitted to the Bureau, Dr. Grindlay stated:

"It is true that one of the experiments I performed on do was to place sponge subcutaneously under a breast nippl The original purpose was to test it for such use in plast surgery. The firmness and rigidity which developed in th implanted mass seemed to me undesirable. . . .

"It may be there will be enough normal tissue covering th implanted sponge that one will not be greatly aware of th firmness, especially if not too massive an implant was use

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1. Grindlay, J. H., and Waugh, J. M.: Plastic Sponge Which Acts as a Framework for Living Tissue, A. M. A. Arch. Surgery 63: 288-297 (Sept.) 1951.

Another reason for using caution in the matter of size would be the inability of the implant to change shape with changes in position of the body."

According to the biographic records, Robert Alan Franklyn is not shown as a member of his local medical society or of the American Medical Association. He is shown as having graduated from New York University College of Medicine in 1941. He was licensed to practice medicine in New York in 1942 and in California and New Jersey in 1943. He is not shown as a member of any specialty group or as a diplomate of any specialty board. There is indication, however, that he served residencies in anesthesiology and dermatology.

It is strange indeed that a physician would permit publication of the details of a surgical procedure in a popular magazine when such procedure does not appear to have the benefit of exhaustive tests on animals to establish its safety and efficacy.

Perhaps, however, it is no more strange than to find Dr. Franklyn listed under the heading "Physicians and Surgeons (M.D.)—Plastic Surgery" in the classified section of the Miami, Fla., telephone directory. The entry instructs readers to call the operator at Hollywood, Calif.

COUNCIL ON NATIONAL EMERGENCY MEDICAL SERVICE

The following analysis of regulations recently prepared and distributed by the Department of Defense concerning the new "Doctor-Draft" law has been made by the Council on National Emergency Medical Service. This résumé has been reviewed by the Office of the Secretary of Defense (Health and Medical) and verified as to its accuracy.

C. Joseph Stetler, *Secretary.*

ANALYSIS OF DOCTOR-DRAFT REGULATIONS

Administrative regulations issued by the Department of Defense to implement the revised version of the "Doctor-Draft" law were published Oct. 7, 1953. These regulations are intended to consolidate, reissue, and modify various earlier Department of Defense directives promulgated pursuant to Public Law 779, 81st Congress, as amended. The résumé will be confined primarily to the provisions of the directive that established new policy and those that substantially amend regulations previously in effect.

A. *The Executive Agent*

The Department of the Army is designated as the executive agent for the Department of Defense and is charged with the following administrative responsibilities in connection with the new "Doctor-Draft" law:

(1) determining the acceptability of special registrants for military service in accordance with established professional, physical and moral standards;

(2) maintaining appropriate liaison with the Selective Service System; and

(3) making departmental allocations of special registrants ordered for induction, following consultation with representatives of other military departments.

B. *Professional Standards*

A special registrant (medical) will be considered professionally acceptable if:

(1) he is a graduate of a medical school approved by the Council on Medical Education and Hospitals of the American Medical Association or is a graduate of a foreign medical school whose graduates are recommended for consideration by that council; or

(2) he is a graduate of any other medical school and possesses a degree of doctor of medicine as a result of completing a four year course of medical instructions; has had 12 months or more of intern or residency training approved by the Council on Medical Education and Hospitals or is a diplomate of an American Specialty Board; and is licensed to practice medicine in a state or territory of the United States or the District of Columbia or is a diplomate of the National Board of Examiners.

C. *Physical Standards*

All special registrants will be considered to be potentially acceptable for military service provided they can reasonably be expected to be productive in the armed forces. These physical standards are substantially the same as those adopted by the armed forces on Jan. 12, 1953.

D. *Moral Standards*

A special registrant will be found *not* acceptable for military service if he has:

(1) been convicted by a civil court of an offense where punishment exceeds one year, or of any offense punishable by death, or

(2) a record of difficulties with law enforcement agencies exhibiting criminal tendencies or other traits of character that would render him unfit, or

(3) previously been separated from the armed forces under other than honorable conditions or for the good of the service, or

(4) had criminal charges filed against him, alleging a violation of state or federal law, which are still pending.

The fact that special registrants are not commissionable or do not desire or will not accept a commission will *not* preclude them from induction or acceptance in the armed forces.

E. *Processing of Requirements*

The estimated military (uniformed) requirements will, after processing within the Office of the Secretary of Defense, be referred to the Assistant Secretary of Defense (Health and Medical) who will obtain the comments of the Health Resources Advisory Committee, Office of Defense Mobilization.

The Assistant Secretary of Defense (Health and Medical) will also coordinate the report with the Assistant Secretary of Defense (Manpower and Personnel) prior to referral to the Secretary of Defense for submission to the President. The Assistant Secretary of Defense (Manpower and Personnel) will place approved calls with the Selective Service System.

F. *Commissioning of Special Registrants*

Special registrants otherwise qualified may be commissioned under the following circumstances:

(1) upon receipt of an application from a special registrant ordered for induction and allocated to the branch of the armed forces to which the application is submitted;

(2) upon receipt of an application for appointment and immediate active duty (within 90 days) from a special registrant who is not under orders for induction as a special registrant;

(3) upon receipt of an application for appointment to fill a vacancy in the reserve from a priority 4 registrant with 21 months or more of prior service;

(4) upon receipt of an application for participation in a professional training program; and

(5) upon receipt of an application from special registrants who are also liable under the basic Selective Service Act, providing such registrants have, as regular registrants, been placed by their local boards in a class available for military service.

G. *Determination of Rank*

The rank assigned will be based upon the number of years spent in appropriate professional activities subsequent to graduation from medical school and prior to the time of entry on active duty. The following schedule will apply:

Physicians and Dentists

	Grade	
Years	Army and Air Force	Navy
Less than 4	1st Lieutenant	Lieutenant (j. g.)
4 or more but less than 11	Captain	Lieutenant
11 or more but less than 18	Major	Lieut. Commander
18 or more*	Lieut. Colonel	Commander

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* Persons with 25 or more years of professional experience who have achieved national prominence as authorities in their particular specialty may be appointed in the grade of colonel in the Army or Air Force or as captains in the Navy.

H. *Readjustment of Grades*

Any physician appointed in a reserve component or now serving on active duty who would have been entitled to a higher grade if the subject directive or Public Law 84, 83rd Congress, had been in effect at the time of his current appointment, will be entitled to an adjustment of grade.

In the case of a reservist, he will, immediately prior to being ordered to active duty, be reappointed or promoted to such higher grade. A special registrant on active duty will, at the earliest practicable date, be reappointed or promoted to such higher grade.

Pursuant to the "Doctor-Draft" law, appointments to grades higher than major or lieutenant commander can be made without referral of the case to a board of officers convened by the secretary of the service concerned.

I. *Ordering Commissioned Personnel to Active Duty*

(1) Reserve medical personnel will, *insofar as practicable,* be ordered to duty in accordance with the priorities established in the "Doctor-Draft" law.

(2) Members assigned to organized reserve units will be called to active duty as individuals in accordance with their priority except when their units are brought into active duty.

(3) Physicians who are members of a national guard unit will not be called to active duty at this time (unless the unit is called), providing they were members of such a unit prior to June 25, 1950.

(4) The "essentiality" of medical reservists will be determined by the National Advisory Committee to the Selective Service System. Requests for delay on this basis may be made by a physician or an employer directly to the branch of the armed forces involved. An appeal may be submitted directly to the Secretary of Defense in the event that a request for such a delay is disapproved.

(5) Any physician qualified for a reserve commission is given an opportunity to volunteer for a period of active duty of *not less than 24 months.*

J. *Interservice Transfer*

Physicians holding reserve commissions in the armed services may apply for transfer to another service. An application containing specific identifying information must be submitted through command channels and must bear the endorsement of the parent and requested departments, irrespective of their approval or disapproval in each case.

MEDICAL MOTION PICTURES

The Frustrating Fours and the Fascinating Fives: Ages and Stages Series: 16 mm., black and white or color, sound, showing time 21 minutes. Produced in 1952 by Crawley Films Ltd., Ottawa, for the National Film Board of Canada. Procurable on purchase (color $175.00, black and white $95.00) from McGraw Hill Text Films, 330 West 42nd Street, New York 36. For rental, consult local film libraries.

With the emphasis on the normal child, the film deals with common incidents in the lives of 4-year-old and 5-year-old children and interprets them in the light of underlying behavior patterns and growth needs. The 4-year-old who knocks down his well-behaved younger cousin and calls his mother a "stinker" in front of the relatives, the bewildered 5-year-old confronted with his dead canary, and the children happily playing cowboy and shooting games, are only three among the many situations portrayed that will provide excellent discussion material. The nursery school and kindergarten scenes, with their comparison of the different kinds of behavior and direction needed at 4 and 5, should also be very helpful for parents and teachers. This film is recommended for the following groups: parents of young children, nursery and kindergarten teachers, pediatricians and pediatric nurses, and social work trainees in child care and child guidance programs. Since the film is self-explanatory and does not involve psychiatric concepts, it could be shown without discussion on the part of a professional consultant. The film is very good from a production standpoint.

BUSINESS PRACTICE

The following material is adapted from a public relations manual issued by the Public Relations Department of the American Medical Association.—Ed.

MORE ABOUT FEES

The best way to arrive at a fair scale of fees is to check with the county medical society and other physicians. Fees differ somewhat in various communities and in different parts of the country. Many medical societies have worked up informal, unpublicized average fee schedules that can serve as a guide to local physicians in setting their charges. Some societies are publicizing average fee schedules so that patients know about how much a physician should charge for such routine medical procedures as office, house, or hospital calls. These schedules serve as a yardstick by which to measure fees. The old philosophy of charging the wealthy more for their medical care in order to provide charity to the needy is fast fading. Any ethical physician will donate his care to those who are unable to pay if he knows the circumstances. Today most physicians have informal fee schedules of their own—sometimes existing only in their heads—based on their actual experience in the community. They charge a fee that can be lowered or cancelled under certain circumstances.

Though every doctor should charge enough to command respect, his fees should be reasonable and consistent with the average patient's ability to pay. A physician sells his time and his services, but he cannot set his fees on the basis of the time spent per patient. Nor can his fee for an intangible service be compared with the price of a piece of merchandise. Because every patient is different, medicine must be practiced on a personalized basis. Medical care has little value except to the patient himself—therefore, values of similar services differ. No one but the doctor himself is in a position to estimate the value of these services. Sometimes a patient may question a medical fee. Many physicians then say: "This seems to me to be a fair fee for your case, but you pay me what you think it is worth." Nearly every physician who uses this method reports that the patient will pay the original sum asked and sometimes will pay a little more.

Once he has established a fee, a physician should adjust charges only on a cost basis. According to a professional management official, 15% to 20% is a fair profit for a physician. Sometimes he can cut his fees on an efficiency basis. It is impossible to put bargain rates on good medical care, but every doctor can strive to give better medical service per dollar and should remember that he is never successful because of the price he places on his services—he is successful only because he is a good doctor doing a good job. Here, in brief, are tips on how to set fees fairly:

1. Check with the county medical society to learn what average fees are in the area.
2. Check with other physicians to learn what fees are charged.
3. Charge a reasonable fee that can be lowered or cancelled if circumstances warrant.
4. Charge enough to command respect.
5. Set fees consistent with the average patient's ability to pay.
6. Adjust fees on a cost basis only.
7. Do not put bargain rates on medical care; this tends to lower quality.
8. Give the best medical service possible per dollar.

MEDICAL LITERATURE ABSTRACTS

UNITED STATES

A.M.A. Am. J. Diseases Children, Chicago

86:265-394 (Sept.) 1953

Studies in Respiratory Insufficiency: I. Carbon Dioxide and Oxygen Studies in Early Respiratory Paralysis in Poliomyelitis. D. G. Dickinson, J. L. Wilson and B. D. Graham.—p. 265.
*Aerosol Trypsin in Respiratory Complications of Bulbar Poliomyelitis: Report of Case. C. Varga and J. Wild.—p. 273.
*Transabdominal Pneumoperitoneum as an Aid in Diagnosis of Sex-Endocrine Disturbances. R. H. Kunstadter, H. S. Guterman and A. S. Tulsky.—p. 275.
Quantitative Variations in Respiration of Newborn Infant. P. J. Howard and A. R. Bauer.—p. 284.
Tuberculous Pericarditis in Children. G. L. Boyd.—p. 293.
Present Status and Future Possibilities of Vaccine for Control of Poliomyelitis. A. B. Sabin.—p. 301.
Epidemiological Aspects of Gamma Globulin Prophylaxis in Poliomyelitis: Critical Evaluation. J. A. Bell.—p. 311.

Aerosol Trypsin in Bulbar Poliomyelitis.—Aerosol trypsin therapy was instituted in the treatment of a 6-year-old boy with bulbar poliomyelitis complicated by respiratory difficulty despite a tracheotomy. Accumulation of extremely tenacious mucus made it difficult to suction the tracheotomy tube and the trachea. The aerosol therapy was continued twice daily for seven days. Ten minutes before each aerosol trypsin administration, the patient was given 10 mg. of diphenhydramine (Benadryl) hydrochloride to prevent possible allergic reactions. Usually, the therapy was completed in about 10 to 15 minutes. There was general improvement in the patient following each such administration, with a pronounced increase in the fluidity of the aspirated secretions, making aspirations much easier and more effective. With the gradual improvement of the patient, aerosol trypsin therapy was given only once daily for four more days and then discontinued. Subsequently several respiratory infections occurred in the patient, and at one time segmental atelectasis was demonstrated by roentgen rays and by a definite decrease in tidal volume. Aerosol therapy was reinstituted and was given twice daily for four days. There was prompt improvement, with apparent clearing of the atelectasis.

Diagnostic Pneumoperitoneum in Sex-Endocrine Disturbances.—Transabdominal pneumoperitoneum was performed in 16 patients between the ages of 21 months and 23 years with sex-endocrine disturbances. Seven patients had ovarian agenesis, one primary hypopituitarism, two pituitary hypoovarianism, one cystic ovary, two constitutional sexual precocity, and three pseudohermaphroditism. The technique consisted of introducing 500 cc. of carbon dioxide into the peritoneal cavity and then visualizing roentgenographically the outlines of the pelvic viscera. No hazards were observed. Results showed that transabdominal pneumoperitoneum may aid in establishing the clinical diagnosis and thus avoid laparotomy in some sex-endocrine disturbances in which detailed physical examination as well as available laboratory studies may be diagnostically inconclusive. The method is of special value in the study of children with such disturbances because of the difficulty of adequate pelvic examination. Early diagnosis is desirable in order to plan future medical and/or surgical management. Recently the authors performed pneumoperitoneum on an 11-week-old infant with pseudohermaphroditism. Female pelvic structures were clearly demonstrated. No untoward reaction resulted from the procedure.

A.M.A. Arch. Dermat. and Syphilol., Chicago

68:241-362 (Sept.) 1953

Chondrodermatitis Nodularis Chronica Helicis: Report of 94 Cases and Survey of Literature, with Emphasis Upon Pathogenesis and Treatment. V. D. Newcomer, C. G. Steffen, T. H. Sternberg and L. Lichtenstein.—p. 241.
Action of Cortisone on Skin of Experimental Animals: Investigations on Protection Against Several Types of Injury to Skin. J. M. Hitch.—p. 256.
Dermatitis of Hands: Etiology and Principles of Treatment, with Observations Concerning Hyperkeratotic Dermatitis of Volar Skin. R. L. Sutton Jr. and S. Ayres Jr.—p. 266.
Carcinoma of Limbus: Report of 19 Cases Treated with Radium and Effect of Gamma Radiation Upon Eye. E. R. Seale.—p. 286.
Topical Use of Polymyxin-Bacitracin Ointment in Dermatology. R. L. Kile, E. Rockwell and J. Schwarz.—p. 296.
Tyrotrace in Topical Therapy. J. L. Miller, H. V. Velsor and B. A. Johnson.—p. 303.
Fluorescence of Microsporum Audouini-Infected Hair: II. Cultural Studies. H. M. Robinson Jr., F. H. J. Figge and E. S. Bereston.—p. 311.
Dysidrosis (Pompholyx). W. B. Shelley.—p. 314.
Skin Hemangioma and Retrolental Fibroplasia. G. C. Andrews and A. N. Domonkos.—p. 320.
Desensitization of Penicillin-Sensitive Patient. L. J. Alexander.—p. 323.
Fatal Shwartzman Reaction During Antibiotic Therapy. L. M. Nelson and E. Braslow.—p. 328.

A.M.A. Arch. Internal Medicine, Chicago

92:299-454 (Sept.) 1953

*Uses and Misuses of Radioactive Iodine in Treatment of Cancer of Thyroid. R. W. Rawson, J. E. Rall and J. Robbins.—p. 299.
Toxoplasmosis: III. Study of Families Exposed to Their Toxoplasma-Infected Pet Dogs. C. R. Cole, J. A. Prior, F. L. Docton and others.—p. 308.
*Id.: IV. Report of Three Cases with Particular Reference to Asymptomatic Toxoplasma Parasitemia in Young Woman. J. A. Prior, C. R. Cole, F. L. Docton and others.—p. 314.
Primary Benign Peptic Ulcers of Greater Curvature of Stomach: Review of Literature and Report of Four New Cases. L. Baker and F. A. Gattas.—p. 321.
Treatment of Pneumococcal Pneumonia with Erythromycin and Carbomycin (Magnamycin). P. A. Bunn and E. Cook.—p. 333.
Rate of Blood Regeneration After Blood Loss. D. H. Coleman, A. R. Stevens Jr., H. T. Dodge and C. A. Finch.—p. 341.
Hemopericardium Associated with Anticoagulant Therapy. P. A. Izzo, R. C. Stevens, A. J. Tomsykoski and C. E. Rodriguez.—p. 350.

Radioactive Iodine in Treatment of Cancer of Thyroid.—As a result of their 10 years' experience with radioactive iodine in the treatment of cancer of the thyroid, the authors state that radioactive iodine should be used for treating cancer of the thyroid (1) in patients whose tumors cannot be removed by surgery and (2) in patients whose cancers are capable of concentrating cancerocidal doses of radioiodine without serious damage to extrathyroid tissues. The misuses of radioiodine in the treatment of cancer of the thyroid occur (1) when it is used for patients whose tumors could be removed by surgery, (2) when it is used for patients whose tumors concentrate so little of the isotope that a therapeutic effect is impossible, (3) when so little radioactive iodine is used that it destroys only the function without any therapeutic effect, and (4) when the radioactive iodine is administered in doses that are so great (single or cumulative) that serious body irradiation occurs. In the authors' clinic patients with metastatic carcinoma of the thyroid who are under consideration for treatment with radioactive iodine are first evaluated as to the capacity of their tumors to concentrate radioactive iodine by administration of tracer doses of the isotope. If the urinary excretion is less than 40% of the administered dose, the patient is considered a candidate for treatment, and a second, but larger, test dose of I^{131} is given, after which daily urinary

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Titles marked with an asterisk (*) are abstracted.

excretion is determined, in vivo measurements are made over the tumor at 48 hours, and the blood level is determined daily for at least seven days and plotted graphically. From the graphic plot of blood levels and the I^{131} retained in the body the amount of radiation that will be delivered to the hematopoietic system and other extrathyroidal tissues is calculated. From this calculation and the estimated size of the tumor the authors try to determine whether they can deliver a cancerocidal dose of I^{131} without doing the patient serious harm. Then a maximum but safe dose of radioactive iodine is administered. By following these rather rigid criteria in treating 35 patients with cancer of the thyroid, 10 patients obtained objective improvement, 10 showed transient objective improvement, 8 were therapeutic failures, and 7 were treated too recently for evaluation. The results obtained demonstrated that a large number of cancers of the thyroid can be made to assume certain functions of normal thyroid tissue, and certain cancers of the thyroid can be at least partially destroyed with radioactive iodine.

Toxoplasmosis.—In a study of families exposed to pet dogs infected with toxoplasmosis, Prior and co-workers found a 26-year-old woman with Toxoplasma parasitemia who appeared to be in excellent health and a 28-year-old woman with toxoplasmic encephalitis and neuroretinitis. The younger woman had been in close contact with the infected dog for four weeks. Leukocytosis and a Toxoplasma antibody titer of 1:160 revealed by the dye test were the only observed deviations from normal. The occurrence of T. parasitemia in this young woman substantiated the concept that there must be asymptomatic Toxoplasma infections in women of child-bearing age to serve as a source of the congenital toxoplasmosis. Although the authors did not have proof that the patient contracted T. parasitemia from the sick dog, the relationship of active toxoplasmosis in the dog and T. parasitemia in the young woman appears to be more than coincidence. Since tonsillitis, pneumonitis, and enteritis were observed in the dog at autopsy, dissemination of the Toxoplasma was possible through the sputum, saliva, and feces. Demonstration of acquired toxoplasmosis in the adult is uncommon. The infection in the young woman with encephalitis was considered to be acquired because of the acute symptoms of recent origin and the high Toxoplasma antibody titer revealed by the complement-fixation and dye test. Concurrently, her pet dog had toxoplasmosis of the digestive tract, making dissemination of organisms in the vomitus and feces a possible source of her infection. A third case of toxoplasmosis is reported in a 2-year-old girl having concurrent severe pertussis that "masked" the disease. The child died and necropsy revealed focal myocarditis with numerous intracellular Toxoplasma organisms. There was perivascular round cell infiltration in the brain, and Toxoplasma pseudocysts were observed in and around focal areas of necrosis and granulomatous inflammation. It was impossible to obtain the cooperation of the family for any correlative search for Toxoplasma infection in other members of the family or the household pets.

A.M.A. Arch. Neurology and Psychiatry, Chicago

70:277-412 (Sept.) 1953

Language as Expressive Behavior. M. Lorenz.—p. 277.
Dynamics of Cure in Psychiatry. I. Galdston.—p. 286.
Changes with Age in Spinal Cord. A. A. Bailey.—p. 299.
Relation Between Personality Factors and Fatigue in Severe Poliomyelitis. J. H. Conn.—p. 310.
Anxiety and Depressive States Treated with Isonicotinyl Hydrazide (Isoniazid). H. M. Salzer and M. L. Lurie.—p. 317.
Cerebrospinal Nematodiasis: Focal Encephalomyelomalacia of Animals by Nematodes (Setaria Digitata); Disease Which May Occur in Man. J. R. M. Innes and C. Shoho.—p. 325.
Effects of Isotonic Intravenous Solutions on Normal and Increased Intracranial Pressure. R. A. Fishman.—p. 350.
Effects of Intensive Psychotherapy on Epileptic Children: Report on Three Children with Idiopathic Epilepsy. L. A. Gottschalk.—p. 361.
Studies in Myasthenia Gravis: Use of Edrophonium Chloride (Tensilon) in Differentiating Myasthenic from Cholinergic Weakness. K. E. Osserman and L. I. Kaplan.—p. 385.
Evidence for Suppression from Temporal Lobe in Monkey. J. Huertas, D. O'Doherty and F. M. Forster.—p. 393.
Angiographic Changes in Sudden and Severe Herniation of Brain Stem Through Tentorial Incisure: Report of Five Cases. J. Riishede and S. Ethelberg.—p. 399.

A.M.A. Arch. Surgery, Chicago

67:129-296 (Aug.) 1953

Is a Scientific Program Sufficient? R. K. Gilchrist.—p. 131.
Alpha-Tocopherol and Alpha-Tocopherol Phosphate in Prophylaxis of Thromboembolism. R. H. Moorman Jr., H. E. Snyder, C. D. Snyder and W. A. Grosjean.—p. 137.
*Use of Bishydroxycoumarin (Dicumarol) for Prevention of Postoperative Thromboembolism: Study of 2,700 Consecutive Surgical Patients. E. Milch, L. Berman and R. Egan.—p. 142.
Definitive Treatment of Fresh Injuries to Large Blood Vessels. J. J. Cranley and L. G. Herrmann.—p. 153.
*Translumbar Aortography as Diagnostic Aid in Localizing Arterial Emboli. C. G. Lovingood and R. Patton.—p. 164.
Carcinoma of Thyroid: Clinicopathologic Study. H. N. Crabtree and D. C. Hunter Jr.—p. 175.
*Criteria for Therapy of Malignant Thyroid Lesions with I^{131}. C. V. Meckstroth and G. M. Curtis.—p. 187.
Carotid Body Tumors: Report of 12 Cases, Including 1 Case with Proved Visceral Dissemination. H. M. Morfit, H. Swan and E. R. Taylor. —p. 194.
Combined Operations for Intraoral and Laryngeal Carcinoma. O. H. Beahrs, K. D. Devine and A. H. Pemberton.—p. 215.
Localization of Radioactivity in Regional Lymph Nodes. H. F. Berg, W. M. Christophersen, A. M. Isaacs and J. R. Bryant.—p. 228.
Relationship of Pulmonary Functional and Pathological Changes in Mitral Stenosis. G. H. A. Clowes Jr., D. B. Hackel, R. P. Mueller and D. G. Gillespie.—p. 244.
Chronic Lung Abscess: 15 Years of Change. R. E. Taber and J. L. Ehrenhaft.—p. 259.
Etiology and Management of Spontaneous Pneumothorax. R. L. Rapport, A. A. Thurlow Jr. and K. P. Klassen.—p. 266.
Prevention and Management of Injuries to Pulmonary Vessels During Pulmonary Resection. H. J. Mendelsohn.—p. 276.
Technique for External Drainage of Biliary Tract Which Leaves Ducts Intact: An Experimental Study. J. H. Grindlay, J. Eberle and W. Walters—p. 289.

Prevention of Postoperative Thromboembolism.—In 2,700 consecutive surgical patients, the indications and contraindications for prophylactic administration of bishydroxycoumarin (Dicumarol) were established for the first 1,144 patients, 872 of whom were considered to be excellent surgical risks giving little reason to expect an intravascular thrombosis in the postoperative period, while 272 were given prophylactic anticoagulant therapy. There were 41 postoperative thromboembolic complications in 35 of the 872 untreated patients, an incidence of approximately 1 in every 25 patients, i. e., an incidence of 4% that is much higher than that reported in the literature. The incidence of pulmonary emboli in the 872 untreated patients was 1.6%, with a mortality rate of 0.34%. Among the 272 patients who received bishydroxycoumarin prophylactically, signs of thrombophlebitis developed in 2, an incidence of 1 in 136 patients. There were no fatalities or pulmonary emboli observed in the treated patients. The indications and contraindications for the prophylactic use of bishydroxycoumarin that had been established in these first 1,144 patients are outlined; they were rigidly followed in the selection of patients for anticoagulant therapy among the succeeding 1,556 consecutive patients. In this second series, 728 patients either did not have the indications for the therapy or had definite contraindications to its use. In this untreated group, signs and symptoms of thrombophlebitis occurred in two patients, an incidence of 1 in every 264 patients (0.27%). Strict adherence to the indications and contraindications for the selection of patients for therapy resulted in a lowering from 4% to 0.27% the incidence of postoperative thromboembolic complications in the untreated group of patients. The remaining 828 patients had definitely recognizable indications for the therapy and were given 200 to 300 mg. of bishydroxycoumarin the morning of the surgical intervention, and an additional 100 to 200 mg. was administered on the first postoperative day and none to 100 mg. on the second postoperative day. Daily prothrombin times were obtained and the daily maintenance dose was regulated according to the prothrombin time. Once the response of the patient to the drug was ascertained, the prothrombin time was checked two to three times a week and minor adjustments in the daily dosage of the drug were made. The prothrombin time was maintained at two to three times normal, or from 25 to 40 seconds, and the prophylactic therapy was continued until the patient was fully ambulatory and for a minimum of 10 days. Among the total number of 1,100 patients (272 in the first series, and 828 in the second series) treated prophylactically with bishydroxycoumarin, clinical evidence of a thrombophlebitis developed in only 3 or an incidence of 0.27%. There were no instances of pulmonary embolism. Hemorrhagic episodes occurred in eight while they were receiving the anticoagulant therapy. In five of the eight patients these episodes were considered minor and cessation of the drug was adequate to control bleeding; in the remaining three, severe hemorrhagic complications necessitated the intravenous administration of large doses of vitamin K and transfusions of fresh whole blood.

Arterial Emboli—Aortography.—Translumbar aortography using Wylie's two needle technique was employed as a diagnostic aid in localizing arterial emboli in five patients. In the first patient the aortogram revealed a block in the left common iliac artery; a bilateral femoral block was demonstrated in the second patient, and block of the aorta from a saddle embolus was shown in the remaining three patients. Translumbar aortography is a safe procedure with few contraindications. It is simple to perform and requires only a few minutes. Hours may be saved in the management of an arterial embolus if there is any question of diagnosis. There is no need to delay operation to perform aortography. Anesthesia is started and aortography is done while the operating room is being set up for surgical intervention. If operation is indicated, anesthesia is continued and embolectomy is accomplished. The incision can be made for precise exposure of the embolus, with a minimum of operating time. Translumbar aortography aids in the management of peripheral arterial emboli, as it establishes the diagnosis and localizes the occlusion.

Radioiodine Treatment for Thyroid Cancers.—Uptake of radioactive iodine (I^{131}) in the primary or metastatic lesions of 47 patients with thyroid carcinoma was studied to determine the criteria for I^{131} therapy. Of the 47 patients, 13 had papillary carcinoma, 17 had adenocarcinoma with varying amounts of colloid formation, and 17 had carcinoma of the undifferentiated type. None of the patients with undifferentiated or papillary types of carcinoma showed any appreciable uptake of I^{131} in the primary or metastatic lesions. Eight of 17 patients with adenocarcinomas with colloid formation had metastases, and 3 of these showed sufficient uptake for I^{131} therapy to cause diminution in size of the lesions. In only these three patients who were benefited by I^{131} therapy was the necessary indication present, that of functioning metastases. When in only 3 of 47 patients, or 7%, the lesions are amenable to radioactive iodine therapy, even though dramatic, it is obvious that early and adequate surgery is still the best weapon against this form of carcinoma. If therapy with I^{131} is indicated, an initial dose of 25 to 50 mc. should be given. This will occasionally produce signs of tracheitis and subacute thyroiditis in about three to six weeks. This complication is easily tolerated by the patient. Six to eight weeks later a dose of 100 mc. may be given and repeated every four to six months until the desired effect is obtained or until the lesions no longer take up I^{131}. The patient will have myxedema in several months with this schedule and should be kept in that state if he can tolerate it. Intermittent administration of desiccated thyroid, 2 to 3 grains (0.12 to 0.20 gm.) became necessary to relieve a state of catatonic schizophrenia produced by prolonged myxedema in one of the author's patients.

American Journal of Clinical Pathology, Baltimore

23:841-950 (Sept.) 1953

Critique on Icterus Index Determination. R. J. Henry, O. J. Golub, S. Berkman and M. Segalove.—p. 841.
False Positive Reactions in Serologic Diagnosis of Syphilis, and Their Relation to Test for Immobilization of Treponema Pallidum. J. A. Kolmer and E. R. Lynch.—p. 854.
Citrate Clotting Time in Anticoagulant Therapy. S. Losner and B. W. Volk.—p. 866.
Activation of Purified Prothrombin with Hemophilic Plasma. S. A. Johnson.—p. 875.
Sarcoidosis of Skeletal Muscle: Report of 6 Cases and Review of Literature. L. W. Powell Jr.—p. 881.
Systemic North American Blastomycosis: Report of Case with Small Forms of Blastomycetes. J. G. Tuttle, H. E. Lichtwardt and C. H. Altshuler.—p. 890.
Giant Forms of Histoplasma Capsulatum in Tissue Explants. J. Schwarz. —p. 898.
Dual Infection with Blastomyces Dermatitidis and Histoplasma Capsulatum: Report of Fatal Case in Man. J. M. Layton, A. P. McKee and F. W. Stamler.—p. 904.

American Journal of Medical Sciences, Philadelphia

226:241-356 (Sept.) 1953

Mechanical Production of Expiratory Flow Rates Surpassing Capacity of Human Coughing. A. L. Barach, G. J. Beck and W. Smith.—p. 241.
*Arterial Hypertension: Therapeutic Effect of Sodium Restriction Combined with 1-Hydrazinophthalazine or Dibenzyline. R. J. Gill, G. G. Duncan and D. J. Reinhardt.—p. 249.
Homologous Serum Hepatitis Following Use of Fraction IV Prepared from Postpartum Plasma: Report of Four Cases. D. Yi-Yung Hsia, J. H. Kennell and S. S. Gellis.—p. 261.
Effect of Oral Administration of Combinations of Pentylenetetrazol and Barbiturates. T. Koppanyi and J. F. Fazekas.—p. 265.
Effect of Intravenous and Intramuscular Paritol on Clotting Time. H. L. Beazley, W. J. Foster, A. A. Ory and D. W. Chapman.—p. 275.
*Hyperactive Carotid Sinus Reflex of Cardio-Inhibitory Type in Individuals with Auricular Fibrillation. L. A. Soloff and J. Zatuchni. —p. 281.
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Effects of Renin in Rats Pretreated with Hydrocortisone and Somatotrophin. G. M. C. Masson, F. del Greco, A. C. Corcoran and I. H. Page.—p. 296.
Effect of ACTH on Eosinophil Count in Peripheral Blood and Bone Marrow. S. W. Root and G. A. Andrews.—p. 304.
Acute Nephrosis: Kidney of Acute Renal Failure. D. Waugh.—p. 310.
Epidemiologic Inferences Derived from Maternal Age. B. MacMahon and J. E. Gordon.—p. 326.

Arterial Hypertension.—Fifteen outpatients between the ages of 36 and 59 years with arterial hypertension, with moderately good renal function, and without azotemia were treated with low sodium diets combined with cation exchange resins and hydralazine hydrochloride (Apresoline). The diets prescribed contained 1 gm. of sodium used in conjunction with 45 gm. daily of the cation exchange resin, Resodec, or 48 gm. daily of carbocrylamine resin (Carbo-Resin) taken after meals. These were supplemented by potassium citrate (1 gm.) and calcium lactate (0.06 gm.) in cherry syrup daily taken a few hours from the time of resin administration. Hydralazine was started with 75 mg. daily, was gradually increased to the point of effectiveness or intolerance (average dose 275 mg. daily), and was given before meals. The duration of combined therapy was 2½ to 10 months. Seven patients went through the complete cycle of therapies, five went through two-thirds of the cycle, and three were unable to tolerate hydralazine. Results showed that hydralazine combined with restriction of dietary sodium in conjunction with cation exchange resins is of value in obtaining a significant reduction of blood pressure and improvement in the cardiovascular and renal function in some patients with arterial hypertension in whom each of these agents used alone is of little or no value. Smaller doses of hydralazine may be used in this combined therapeutic program than are needed when the drug is administered alone. It seems logical that this effect should occur since one is attacking the hypertension with two means each of which has a different mechanism of action. Although the exact role of sodium in hypertension is not known there is some evidence that its depletion contributes to a decrease in peripheral vascular resistance, while the action of the hydralazine seems to be as a neutralizer of a pressor substance elaborated by the midbrain and perhaps of other humoral agents. Dibenzyline (n-phenoxyisopropyl-N-benzyl-β-chloroethylamine), an adrenergic blocking agent affecting sympathetic stimuli peripherally at the nerve endings, was given combined with a low sodium, cation exchange resin regimen in an average daily dose of 100 mg. to 34 outpatients between the ages of 38 and 60 years with hypertension. This combined therapy was used for two to six months. Of the 34 patients, 13 (38%) could not, or would not, take it long enough to permit evaluation of its hypotensive effect. In some of the remaining 21 patients dibenzyline administered in conjunction with low sodium, cation exchange resin therapy caused an additional fall in blood pressure below that attained with either type of therapy alone, but this gain was largely offset by the high incidence of undesirable side-effects and by the frequency of escape of the hypertension from the effect of the drug.

Hyperactive Carotid Sinus Reflex of Cardio-Inhibitory Type. —In 13 of 20 patients with auricular fibrillation, carotid sinus pressure produced no significant decrease in ventricular rate or symptoms other than those attributable to direct local pressure. In the remaining seven, six men between the ages of 40 and 81 and one 70-year-old woman, a hyperactive carotid sinus reflex of the cardioinhibitory type was produced almost simultaneously. In three of these seven patients, each with a history of syncope, ventricular standstill occurred. In the other four, two of whom had a history of recurrent episodes of dizziness and lightheadedness, the ventricular response was abruptly and significantly slowed and became regular. The auricular complexes appeared to be unchanged in frequency. The QRS complex became larger in two, an R-wave was abolished in one, and, in another, the configuration of complete left bundle branch block of 9 years' duration was transformed to that of normal conduction. Observations indicated that the predominant effect of carotid sinus pressure in these patients was upon the auriculoventricular node. It is important to recognize this carotid sinus syndrome because it alarms the patient and yet does not have as serious a prognosis as do other types of cardiac syncope. Therapy directed toward increasing myocardial efficiency and blocking the reflex arc somewhere in its course, may be effective in preventing recurrent attacks.

American Journal of Obstetrics & Gynecology, St. Louis

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Intravascular Clotting and Afibrinogenemia, Presumptive Lethal Factors tors in Syndrome of Amniotic Fluid Embolism. D. E. Reid, A. E. Weiner and C. C. Roby.—p. 465.
*Pathologic Anatomy of Eclampsia, Bilateral Renal Cortical Necrosis, Pituitary Necrosis, and Other Acute Fatal Complications of Pregnancy, and Its Possible Relationship to Generalized Shwartzman Phenomenon. D. G. McKay, S. J. Merrill, A. E. Weiner and others. —p. 507.
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*Remote Effects of Prolonged Labor with Forceps Delivery, Precipitate Labor with Spontaneous Delivery, and Natural Labor with Spontaneous Delivery on Child. H. B. W. Benaron, M. Brown, B. E. Tucker and others.—p. 551.
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Etiology and Management of Idiopathtic Pelvic Pain. G. D. Patton. —p. 611.
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Adrenal Hemorrhage in Pregnancy. W. F. Peterson and J. Goldzieher. —p. 648.
An Experiment in Teaching of Obstetrics and Gynecology at Graduate Level: Application of Clinical Psychiatry in Teaching of Obstetrics and Gynecology. K. M. Wilson, J. C. Donovan and J. Romano.—p. 654.

Pathological Anatomy of Eclampsia and Other Fatal Complications of Pregnancy.—From the cases of maternal deaths that occurred at the Boston Lying-In Hospital between 1930 and 1952 and in which necropsies were performed, 21, i. e., all cases of patients with toxemia, eclampsia, premature separation of the placenta, pituitary necrosis, bilateral cortical necrosis of the kidneys, and fibrin thrombi were studied. Eclampsia, bilateral renal cortical necrosis with premature separation of the placenta, and pituitary necrosis incident to pregnancy have been regarded as more or less distinct, separate clinical and pathological entities. The results of the authors' studies suggested that intravascular fibrin deposition in arterioles and capillaries throughout the body is responsible for the necrosis and hemorrhage seen in eclampsia, bilateral renal cortical necrosis, and pituitary necrosis associated with pregnancy. These cases are often accompanied by severe shock, hemorrhage, and anuria. Fibrinogenopenia and fibrinolysins develop in this group of patients. The pathological changes observed in the 21 patients and those in animals subjected to the generalized Shwartzman reaction were almost identical. It is, therefore, suggested that toxic material suddenly released into the maternal blood stream is responsible for the deposition of fibrin, the hemorrhages and necroses, and the acute clinical symptoms of shock, anuria and hemorrhage in toxemic patients with premature separation of the placenta and in eclamptic patients, and that these conditions are manifestations of the generalized Shwartzman phenomenon in human beings. In some cases the source of "toxin" may be a bacterial infection. In others, particularly those associated with toxemia of pregnancy, the "toxin" may be similar to the "menstrual toxin" described by the Smiths.

Remote Effects of Labor on the Child.—Of 135 children between the ages of 5 and 15 years who were selected to study the remote effects of labor, 47 were in the group of those whose mothers had been in prolonged labor with forceps delivery, 45 in the precipitate labor with spontaneous delivery group, and 43 in the natural labor with spontaneous delivery group. Physical, neurological, and psychological examinations indicated that precipitate delivery is likely to be more deleterious than the spontaneous natural delivery or prolonged delivery with instrumentation. Children whose birth had occurred rapidly showed a greater incidence of feeble-mindedness, a greater dispersion over the mental years in the intelligence test, a greater difficulty in completing geometrical figures, and a less well-developed laterality in the use of the hands, eyes, and feet. All of these results taken in their totality are more characteristic of children who have suffered brain injury. Most of the births in the precipitate group were among multiparous women. Eighteen of the mothers in this group were in labor less than one hour. Contractions occurring too frequently, and with too much force, reduce the oxygen supply and lead to anoxia. This in turn, can cause edema and hyperemia of the brain. Rupture of the bag of waters, with precipitate birth, produces sudden changes in intracranial pressure. Both of these conditions favor cerebral hemorrhage. Although the number of children studied was too small to warrant general application, the authors' observations suggested that if the child survives the neonatal period his chances of growth and development are equal after prolonged labor and forceps delivery and after natural labor with spontaneous delivery. Serious apnea after prolonged labor and forceps delivery does not contribute to abnormal mental development to a higher degree than spontaneous birth unaccompanied by apnea. A developmental clinic is needed to carry out this research. A correlation of birth experience with a continuous study of the growth and behavior pattern of the child may solve the problem of the effect of labor and delivery on the future development of the person.

Am. J. Syphilis, Gonorrhea and Ven. Dis., St. Louis

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Address of Welcome to Symposium on Recent Advances in Study of Venereal Diseases. D. E. Price.—p. 401.
Syphilis Mortality During Period of Fifth Revision of International Lists of Causes of Death. L. J. Usilton, Q. R. Remein, R. M. Thorner and J. F. Donohue.—p. 403.
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Id.: II. Complicated Aortitis. H. Eisenberg and M. Brandfonbrener. —p. 442.
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Am. Practitioner & Digest of Treatment, Philadelphia

4:591-678 (Sept.) 1953

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Hidden Urinary Obstruction: Value of Residual Urine. G. S. Slater.—p. 605.
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American Review of Tuberculosis, New York

68:307-504 (Sept.) 1953

*Occurrence of Histoplasmosis in Epidemics: Etiologic Studies. M. L. Furcolow and J. T. Grayston.—p. 307.
Growth of Mammalian Tubercle Bacilli in Tween-Albumin Liquid Medium: I. Observations on Proportion of Viable Organisms, Cytology, and Virulence of Bacilli at Different Stages of Growth of Strain H37Rv, F. Fenner and R. H. Leach.—p. 321.
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Studies on Fractionation of Tuberculin and Johnin: II. Extraction of Tuberculin Proteins with Phenol. M. A. Jones, A. B. Larsen, T. H. Vardaman and L. A. Baisden.—p. 439.
Studies on Fractionation of Tuberculin and Johnin: III. Fractionation of Johnin Proteins. M. A. Jones, A. B. Larsen, T. H. Vardaman and L. A. Baisden.—p. 444.
Effect of BCG Vaccination on Mice Infected with Tuberculosis. F. K. FitzPatrick.—p. 451.

Histoplasmosis Epidemics.—Etiological studies including skin tests, serologic tests, follow-up chest roentgenograms, and cultures of soil for pathogenic fungi were carried out in 13 epidemics of disseminated pneumonitis. Of 116 persons involved in the outbreaks, 94 were subjected to skin tests and all had positive results from the histoplasmin tests. Forty-four of 54 serums obtained from the 116 persons within three months of the onset of the epidemics showed high titer reactions to the complement fixation and precipitin tests, with falls in titer thereafter. Some serologic evidence of histoplasmosis infection was obtained in each epidemic. Pulmonary calcification was demonstrated in 61 of 73 persons who were examined roentgenographically at least four years after the onset of the epidemic in which they were involved. In 42 of these persons with calcification, the process was the disseminated miliary type. Histoplasma capsulatum was cultured from soil samples obtained at the place of infection (point source) in 11 of the 13 epidemics studied. Because of the occurrence of the disease in groups of persons with similar clinical findings and similar reactions to the etiological studies, these studies provide conclusive evidence that the epidemics were due to histoplasmosis.

Anesthesiology, Philadelphia

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Bone Maturation and Capillary Microscopy as Indicators for Use of Thyroid in Childhood Allergy. B. Ratner.—p. 419.
Gastrointestinal Allergy and Celiac Syndrome with Particular Reference to Allergy to Cow's Milk. R. H. Kunstadter and A. Schultz.—p. 426.
Frequency of Poliomyelitis in Patients Receving Pollen Extract Injections. H. A. Abramson.—p. 435.
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Airborne Fungus Spores, Brunswick, Georgia, Area: Incidence and Variation with Climatic Changes. T. W. Collier and B. A. Ferguson.—p. 480.
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Annals of Surgery, Philadelphia

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Trends of Surgery in Last Decade. R. S. Dinsmore.—p. 289.
Total Gastrectomy by Transthoracic Approach: Subsequent Report. R. H. Sweet.—p. 297.
Some Factors Which Influence Prognosis in Surgical Treatment of Gastric Carcinoma. W. H. ReMine, M. B. Dockerty and J. T. Priestley.—p. 311.
Gastrectomy as Treatment for Perforated Peptic Ulcers. J. M. Emmett and E. T. Owen.—p. 320.
*Appraisal of Resection of Colon for Diverticulitis of Sigmoid. C. E. Welch, A. W. Allen and G. A. Donaldson.—p. 332.
Application of Z-Plasty Technique to Hollow Cylinder Anastomosis: Experimental Study in Surgery of Blood Vessels. E. Holman and R. Hahn.—p. 344.
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Cessation of Circulation in General Hypothermia: I. Physiologic Changes and Their Control. H. Swan, I. Zeavin, J. H. Holmes and V. Montgomery.—p. 360.
Consideration in Excision of Aortic Aneurysms. H. T. Bahnson.—p. 376.
*Direct Surgery of Arteriosclerosis: Resection of Abdominal Aorta with Homologous Aortic Graft Replacement. O. C. Julian, W. J. Grove, W. S. Dye and others.—p. 387.
Surgical Repair of Atrial Septal Defects. H. B. Shumacker Jr.—p. 404.
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Metabolic Alterations in Surgical Patients: I. Effect of Altering Electrolyte, Carbohydrate and Amino Acid Intake. W. E. Abbott, H. Krieger, L. I. Babb and others.—p. 434.
Caustic Burns of Esophagus and Their Surgical Management: Clinico-Experimental Correlation. T. H. Burford, W. R. Webb and L. Ackerman.—p. 453.
Effect of Chronic Fluorine Intoxication Upon Healing of Experimental Fractures in Rats. R. T. Odell and J. A. Key.—p. 461.
Therapeutic Evaluation of New Anticoagulant Phenylindandione. W. W. Coon, I. F. Duff, P. E. Hodgson and E. W. Dennis.—p. 467.
Homologous Serum Jaundice and Pooled Plasma—Attenuating Effect of Room Temperature Storage on Its Virus Agent. J. G. Allen, H. S. Inouye and C. Sykes.—p. 476.

Resection of Colon for Diverticulitis of Sigmoid.—Of 582 patients with diverticultis observed at the Massachusetts General Hospital between January, 1942, and March, 1953, 114 were treated by sigmoid resection, with operative mortality of 2.6%. Experience with these patients indicated that, where advisable, aggressive surgery was more effective than palliative procedures, such as exploratory laparotomy, often with incision and drainage, cecostomy, and colostomy. The opinion that surgery is not indicated in diverticulosis of the colon and uncomplicated diverticulitis is being revised. Indications for operation now include obstruction, bleeding, uncomplicated diverticultis, repeated attacks of diverticulitis while the patient is on a good medical regimen, diverticulitis in patients under 50 years of age, severe persistent deformity of the sigmoid on radiologic examination, development of urinary symptoms in the presence of diverticulitis, and suspected cancer. Resection and anastomosis can be performed in one, two, or three stages, depending on the general condition of the patient; the three stage operation is recommended for patients with perforation, fistula, or obstruction.

Direct Surgery of Arteriosclerosis.—Five patients with degenerative arterial disease of the lower end of the aorta, three with obstruction and two with dilatation and aneurysm formation, were treated by resection of the aortic bifurcation and repair of the defect with a preserved homologous aortic bifurcation. During the time of clamping the aorta, the blood pressure was reduced by the anesthetist by means of Arfonad (d-3, 4[1′, 3′-dibenzyl-2′ keto-imidazolido]-1, 2 trimethylene thiophanium d-camphor sulfonate), recommended as a means of reducing the trauma caused by the aortic hemostatic instrument. The over-all result of this treatment was satisfactory. Two grafts were successful in restoring blood flow to both extremities, while, in three, restoration was obtained on one side only. No deterioration of the repair was noted.

Arch. of Physical Medicine & Rehabilitation, Chicago

34:539-584 (Sept.) 1953

*Studies on Anterior Poliomyelitis Patients with Respiratory Paralysis. O. L. Huddleston, D. Rubin, R. W. Moore and others.—p. 539.

Comparison of Skin and Muscle Temperatures Following Hot Foments, Dibenamine® and Priscoline® in Acute Poliomyelitis. W. W. Whitten and J. G. Kramer.—p. 552.

Effect of Venous Compression on Circulation of Extremities. T. Winsor and W. A. Selle.—p. 559.

*Mineral Springs in the Commonwealth of Pennsylvania: Field Survey. I. H. Kornblueh and G. M. Piersol.—p. 566.

Physical Treatment of Respiratory Paralysis in Poliomyelitis.—The treatment program of poliomyelitis patients with respiratory paralysis, which has been adapted at an Institute for Neuromuscular Rehabilitation in California, is presented. This procedure includes (1) making repeated measurements of tidal air and vital capacity, (2) proper positioning of the patient, (3) treatment of intercostal spasm by means of packs and early and continued manual mobilization therapy, (4) using positive intrapulmonic and negative intratank respiratory pressures, and (5) supplemental respiratory exercises, combined with the use of an abdominal binder when indicated. Other measures included (6) pulmonary ventilation exercises, used separately, with the positive pressure breathing equipment provided either by the attachments of the tank type respirator or by the Bennett flow sensitive positive pressure apparatus, or using combined negative intratank and positive intrapulmonic pressures and (7) treatment of muscle paresis and paralysis by means of manual resistive exercises, combined with reinforcement exercises to augment synaptic facilitation of the remaining undamaged motor neurons. The combination of manual resistive exercises and reinforcement techniques is believed effective in restoring adequate pulmonary ventilation. Three additional therapeutic techniques that are not customarily employed in the physical treatment of poliomyelitis patients with respiratory weakness are described: (*a*) early and prolonged mobilization therapy, (*b*) early and extended use of manual resistive exercises, and (*c*) early and continued use of reinforcement techniques to facilitate the motor response of the muscles of respiration; the combination of manual resistive exercises and reinforcement techniques is used as the basic principle of neuromuscular reeducation. Clinical observations were recorded on 12 patients with respiratory muscle paralysis. Sufficient reserve to discontinue the use of the respirator developed in all but three. One patient continues to use the tank type of respirator only at night, and the other two patients use the chest respirator at night. Poliomyelitis patients with respiratory paralysis can be treated effectively during the convalescent and chronic stages by the treatment program presented in this paper.

Mineral Springs.—Kornblueh and Piersol feel that it is the responsibility of those interested in physical medicine to place balneology on a rational and scientific footing. Preparatory field work includes location of mineral springs, physical, chemical and bacteriological examination of waters, determination of their physiological and therapeutic potentialities, and evaluation of mineral water on the basis of experimental laboratory studies and controlled clinical investigations. A survey was made of the mineral springs in Pennsylvania. This survey located 29 spas with hotel accommodations that existed in Pennsylvania at different periods during the last 200 years. Only three of these spas were active in 1952. The authors feel that good mineral water in sufficient amounts, free of contamination and impurities, is a valuable therapeutic asset, but the proper evaluation of water requires the cooperation of various scientific groups. The restorative and rehabilitative possibilities offered in the environment of a spa are not met by other medical facilities. Balneology offers effective therapeutic approaches to many somatic and psychosomatic problems in medicine.

Bacteriological Reviews, Baltimore

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Cytologic Detection of Cervical Cancer: Four Years' Experience wit Routine Smear Examination in Private Practice. P. L. Martin, T. A Slate and J. W. Merritt.—p. 108.

Cancer Research, Chicago

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Effect of Roentgen Radiation on Incorporation of Radiophosphorus int Nucleic Acids and Other Constituents of Mouse Mammary Carcinoma H. Vermund, C. P. Barnum, R. A. Huseby and K. W. Stenstrom. —p. 633.

Ascorbic Acid Analog in Experimental Cancer. B. Sokoloff, W. H. Eddy, R. Powella and others.—p. 639.

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Circulation, New York

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•Mitral Commissurotomy in Older Aged Patient: An Analysis of 20 Patients Over Age of 50. O. H. Janton, R. P. Glover and T. J. E. O'Neill.—p. 321.
Tetralogy of Fallot with Unilateral Pulmonary Atresia: Clinically Diagnosable and Surgically Significant Variant. A. S. Nadas, H. D. Rosenbaum, M. H. Wittenborg and A. M. Rudolph.—p. 328.
•Rheumatic "Activity" as Judged by Presence of Aschoff Bodies in Auricular Appendages of Patients with Mitral Stenosis: II. Clinical Aspects. W. F. McNeely, L. B. Ellis and D. E. Harken.—p. 337.
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Electrocardiograms of Deceptive Form in Ventricular Hypertrophy. C. E. Kossmann.—p. 403.
Patient with Cardiovascular Disease and Rehabilitation: Third Phase of Medical Care. J. G. Benton and H. A. Rusk.—p. 417.

Mitral Commissurotomy in Aged Patients.—Mitral commissurotomy was performed in 20 patients (out of 400 consecutive cases) between the ages of 50 to 61 years. These patients were greatly incapacitated. A definite history of rheumatic fever and/or chorea in childhood was found in eight patients. The symptoms, however, had not appeared in them until the later decades of life. Systemic emboli had occurred in five patients, four of whom had cerebral emboli besides emboli to the abdomen or legs. The diagnosis was "pure" mitral stenosis in 11 patients and mitral stenosis associated with mitral insufficiency in 9. At surgery a thrombus was found in the left auricular appendage and/or left auricle of nine patients. Four of them had a preoperative history of arterial emboli. The clot was removed by auricular appendectomy in seven. Calcification was present in 13 of the 20 valves, and it was excessive in five. The size of the valve orifice was less than 1 cm. in diameter (diameter of a cigarette) in 17 patients and slightly larger in 3. The valve leaflets were separated to a width of 3 to 4 cm. in 12 patients, 2.5 cm. in 7, and 1.5 to 2 cm. in 1. Clinically significant insufficiency was never produced even in those patients who had minimal insufficiency prior to commissurotomy. All the patients were discharged 10 to 21 days after the operation except one whose left leg had been amputated. Results were excellent in six patients who are leading a normal productive life; they are taking a maintenance dose of digitalis but do not need excessive salt restriction or use of mercurial diuretics. Nine are improved, but in addition to digitalis they must also remain on a low sodium diet and sometimes resort to mercurial diuretics. Three patients were not benefited. Of these, one refused to follow instructions, one had a dynamic mitral insufficiency and marked right ventricular enlargement, and one had a heavily calcified valve, making it impossible to separate the leaflets adequately. Two other patients who had had chronic congestive heart failure for over two years with a marked enlargement of the heart and liver died three and eight months after commissurotomy. These results indicate that mitral valve surgery can be performed without unusual morbidity and mortality in selected patients over 50 years of age who, therefore, should not be denied surgery merely because of age. Prognosis rests mainly on the size of the heart. Best results are obtained in those with slight to moderate right ventricular enlargement. Patients with pronounced enlargement of the right ventricle especially if associated with an enlarged left ventricle and/or massive dilatation of the left auricle are poor risks.

Aschoff Bodies in Auricular Appendages of Patients with Mitral Stenosis.—The authors made a biopsy study of 183 left auricular appendages removed during interventions for mitral stenosis in patients who had no clinically obvious signs of active rheumatic fever. They found Aschoff bodies in 45.4% of the appendages. They report on the correlation of the clinical features with the histological findings. There was no definite correlation between the Aschoff lesions and the usual clinical or laboratory criteria of rheumatic activity. The erythrocyte sedimentation rate, the antistreptolysin-O titer, and the electrocardiograms (apart from the significance of rhythm) were found to be of no value as evidence of rheumatic "activity." The heart rhythm of the patients was an important factor since the incidence of positive biopsies was lower in patients with auricular fibrillation. Of 95 patients with auricular fibrillation, only 16 (17%) had Aschoff lesions against 65 (76%) of 86 patients who had normal sinus rhythm. Fibrillation correlates well with the presence of intra-auricular thrombus, and since this is uncommon in hearts with Aschoff lesions these findings seem to be justified. Age was also an important factor, since the frequency of Aschoff lesions decreased with advancing age. They were found in 73% of the patients between the ages of 20 to 30 years and in only 8% of those over 50 years. The Aschoff lesions did not show seasonal variation. The significance of these biopsy findings in relation to clinical rheumatic fever is difficult to explain. There is nothing in this study to prove or disprove a relationship between the Aschoff lesions and a continuing active rheumatic state. If this state does represent "smoldering" rheumatic carditis, then the currently available clinical techniques are not specific enough to demonstrate it. Studies of hearts with other forms of rheumatic valvular disease might shed some light on this problem.

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Diabetes, New York

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*Spontaneous Diabetes Mellitus in the Dog: Account of Eight Cases. H. T. Ricketts, E. S. Petersen, P. E. Steiner, and N. Tupikova.—p. 288.
*Factors Affecting Islets of Langerhans. R. E. Haist.—p. 295.
New Technique for Detection of Hidden Diabetes: Induction of Hyperglycemia by Feeding Glucose After Dietary Preparation. H. T. Engelhardt, J. A. Greene and V. C. Baird.—p. 299.

Spontaneous Diabetes Mellitus in Dogs.—In dogs, spontaneous diabetes differs in no important respect from permanent experimental diabetes produced by alloxan (2,4,5,6[1,3]-pyrimidinetetrone), pituitary extracts, or subtotal pancreatectomy. Perhaps it is too much to say that it does not differ materially from human diabetes, but the resemblance, with the possible exception of the vascular complications, is close, even to its predilection for middle-aged or elderly females. The disease is apparently associated in all cases with extensive histological abnormalities of the islands of Langerhans or of the pancreas as a whole and with a marked depletion of extractable pancreatic insulin. The cause of beta cell failure in dogs is no more apparent than in man. The pituitary bodies were grossly normal when removed; this organ shows no consistent change in human diabetes. The adrenal glands, although exhibiting nodular hyperplasia, were not significantly different from those of nondiabetic old dogs. Nothing is known about the genetic aspects of diabetes in dog. Fibrous arteriosclerosis, not atherosclerosis, is the rule and is doubtless related more to the age of the animals than to the influence of diabetes. Of particular interest are the glomerular lesions scarcely distinguishable from those of intercapillary glomerulosclerosis in man that were found in one dog. If these two types of lesions are considered counterparts in dog and man, certain questions arise: 1. Are 12 months of poorly controlled diabetes enough to have produced such changes? 2. If so, why have they not been found to this degree in dogs with uncontrolled experimental diabetes of more than three years' duration? 3. Is it possible, as has been hypothesized for man, that spontaneous diabetes carries with it the tendency toward vascular disease and that hyperglycemia and its concomitants alone, although perhaps augmenting it, do not actually cause it? 4. If this is true, why did true atherosclerosis, as distinct from fibrous arteriosclerosis, not appear in the present case? 5. Since the Kimmelstiel-Wilson syndrome in patients rarely occurs without retinopathy, why was the retina spared in this dog? Further studies are needed to find these answers.

Factors Affecting the Islets of Langerhans.—Factors that reduce islet activity and in young rats depress islet growth are restriction of caloric intake or carbohydrate intake, administration of large amounts of insulin, and removal of the pituitary gland. Factors that stimulate islet activity and in young rats decrease islet growth in both intact and hypophysectomized young rats are high carbohydrate intake, continuous injection of glucose, injections of anterior pituitary extract, injections of growth hormone preparations, injections of corticotropin (ACTH), and thyroid administration. Injections of cortisone are stimulating only in rats that have had hypophysectomy. Estradiol benzoate, diethyl stilbestrol, and progesterone are stimulators in intact rats; they have not been tested in rats that have had hypophysectomy. The stimulating action of testosterone is not significant in intact rats, and has not been tested in other rats. The fact that these various substances seem capable of stimulating islet growth probably means that their effects are brought about through some final common path. It seems likely from other work that the materials that stimulate the growth of the islets do so because they increase the need for endogenous insulin, though the manner in which this requirement is transmitted to the pancreas is not known. Excessive stimulation of the islets under some conditions can lead to degeneration and finally to disappearance of the insulin-secreting cells. Factors reducing islet activity can prevent this excessive stimulation and protect the islets.

Diseases of Chest, Chicago

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Pneumoperitoneum in Treatment of Pulmonary Tuberculosis: Critical Review. F. J. Menendez.—p. 325.

Effect of Antimicrobic Agents on Artificial Pneumothorax.—Of 266 patients with pulmonary tuberculosis in whom artificial pneumothoraces were induced, 105 were submitted to 116 consecutive pneumothoraces (group A) without specific medication and 82 patients to 82 consecutive pneumothoraces (group B). All but seven of the patients received *p*-aminosalicylic acid both before and after induction of pneumothorax; the remaining 79 patients were submitted to 85 consecutive pneumothoraces (group C), with *p*-aminosalicylic acid and dihydrostreptomycin given in combination both before and after induction of pneumothorax. These three groups of patients were observed for six months after the induction of the pneumothorax to study the effect of the antimocrobic agents on the artificial pneumothorax therapy. A free space was found at induction or was obtained after adhesion section in 42% of group A, in 57% of group B, and in 56% of group C. "Spontaneous" pleural effusion (appearing before adhesion section or more than two months afterwards) occurred in 15% of group A, 9% of group B, and 5% of group C. Pleural effusions followed adhesion section within two months and were considered to be caused by the intervention in 23%, 18%, and 15% of the respective groups. Pleural effusions persisted for more than two months in 27%, 15%, and 7%. Empyema developed in 3% of the patients in group A, but in none of groups B and C. Impairment of ventilatory function due to pleural effusion was observed in 16% of group A; in some of these patients the impairment was severe. In groups B and C only 11% and 5%, respectively, showed any functional damage, and this was invariably slight. These results indicate that artificial pneumothorax can be undertaken with the aid of the new specific drugs, without the risk of pleural effusion, empyema, and permanently impaired ventilation following pleural effusion.

Endocrinology, Springfield, Ill.

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*Treatment of Creeping Eruption. E. P. Kelley.—p. 242.
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Treatment of Creeping Eruption.—Creeping eruption, in the form of larva migrans or creeping ancylostomiasis, is a form of parasitic infestation of the skin caused by the filariform larva of the dog and cat hookworm, Ancylostoma braziliense.

This larva can penetrate the human skin on direct contact with contaminated soil and produce a disturbing skin lesion characterized by serpiginous burrows and itching. The worm, in the deep layers of the skin, has previously been extremely difficult to eradicate, and therapeutic attempts have produced scarring and disability in excess of that caused by the worm. Kelley and his associates now employ the filaricide, Hetrazan, which is available in the form of the dihydrogen citrate salt of 1-diethylcarbamyl-4-methylpiperazine. Toxicity is negligible in therapeutic doses. It was at first available in 50 mg. tablets, and later as a syrup containing 120 mg. per teaspoonful, which is a more convenient dosage form. The histories of seven patients with creeping eruption are presented. Side-reactions seem to be of no great consequence. Three of the patients experienced nausea with each dose, but were able to complete the course. The nausea was reduced by taking the drug immediately after meals. The effective dose seems to vary regardless of the age or the severity of the infestation. A fairly large dose for a relatively short time seems most satisfactory. The originally recommended dose of 2 mg. per kilogram of body weight given three times a day was found too small in most cases. The author now prefers to give 9 or 10 mg. per kilogram per dose, administered three times a day immediately after meals, for a period of five or six days. This is most conveniently given in the form of the syrup.

Iowa State Medical Society Journal, Des Moines

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Journal of Allergy, St. Louis

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Cutaneous Sensitization to Blue-Green Algae. S. G. Cohen and C. B. Reif.—p. 452.
Schultz-Dale Technique. E. J. Coulson.—p. 458.

Streptococcus Toxin-Antitoxin in Experimental Production of Arterial Sensitization.—Thirty rabbits were passively immunized with 1,500 United States Public Health Service (U.S. P.H.S.) units of Streptococcus antitoxin (horse globulin) and were given two to six hours later a 15,000 skin test dose of Streptococcus erythrogenic toxin in divided doses. These animals were killed 24 hours later and sections were taken for a microscopic study. Microscopic pathological lesions were observed in 14 rabbits. These involved the small pulmonary arteries, pulmonary arterioles, and occasionally the pulmonary venules. The lesions consisted chiefly of a periarteriolar and a mild panarteriolar infiltration especially of eosinophils and to a lesser extent of lymphocytes, plasma cells, and neutrophils. Five rabbits received a similar dose of Streptococcus antitoxin alone, and five received the same dose of Streptococcus toxin alone. Ten rabbits were passively immunized with Streptococcus antitoxin and five of these were challenged with diphtheria toxin and the remaining five with Veldee mediums. Five rabbits were passively immunized with tetanus antitoxin and five received normal horse serum prior to the administration of challenging doses of Streptococcus erythrogenic toxin. In all 30 of these animals there were no pulmonary vascular lesions observed after 24 hours. The lesions of pulmonary periarteritis and panarteritis in those rabbits passively immunized against and challenged with Streptococcus erythrogenic toxin were less frequently and uniformly produced and were of less severe degree of involvement than found in a series of rabbits that had been passively sensitized against and challenged with horse serum. Apart from quantitative differences, qualitatively the lesions were histologically identical in rabbits subjected to passive sensitization and challenge, regardless of whether the antibody-antigen system employed was homologous antihorse serum-horse serum or heterologous species Streptococcus antitoxin-erythrogenic toxin.

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Embryonal Cell Carcinoma of Liver in Infancy. A. J. Tomsykoski and R. C. Stevens.—p. 309.
Sickle-Cell Anemia with Unusual Bone Changes. R. E. Ivy and F. H. Howard.—p. 312.

Congenital Hyperhidrosis.—The occurrence of congenital hyperhidrosis is reported in a 9-year-old girl. Excessive sweating on both the volar and dorsal surfaces of the hands and feet were the significant findings on admission to the hospital. The hands and feet were cooler than the other parts of the body, and the distal portions of the fingers and toes were pale with smooth, thin skin. There was symmetrical decreased vascular pulsation and blood flow in fingers and toes. Vasodilation resulted from right tibial procaine hydrochloride block as evidenced by flushing and increase of pulsation, blood flow, and skin temperature. Sweating of the right foot was completely abolished by the block. Studies with subcutaneous injections of the adrenolytic agent Hydergine, a mixture of dehydrogenated ergot alkaloids with a sympatholytic effect, blocking sympathetic nerves at the neuroeffector junction, demonstrated similar simultaneous changes in all four extremities. Methantheline (Banthine), owing to its effect of blocking the parasympathetic nerves, was shown to moderately decrease, but not to abolish, sweating of the hands and feet. The effect of psychic stimulation was striking, with apprehension resulting in decreased skin temperature and profuse sweating of hands and feet. On discharge from the hospital, the patient was given 1 gm. of Hydergine orally every three hours during the day and 50 mg. of methantheline three times daily. During the next nine months the child experienced pronounced relief. Despite excessive hot weather, her hands and feet remained almost completely dry with skin pallor replaced by a natural pink color. Until the recent development of satisfactory sympatholytic agents, surgical sympathectomy was the only effective treatment. The differing modes of action of Hydergine and methantheline suggested their simultaneous use in the authors' patient, which was apparently of more value than when either drug was used alone. Although the results obtained with combination of these drugs were extremely satisfactory, cumbersome daily administration of the drugs will have to be continued indefinitely and, therefore, the question of sympathectomy may be seriously considered in the future. It is possible that discovery of other new drugs that have an adrenolytic effect may obviate the need for sympathectomy.

Chorea Minor.—Corticotropin (ACTH) combined with co tisone in various ratios ranging from 1:1 to 1:3 was give every six hours to six children between the ages of 7 and years with chorea minor. Administration of the drugs w continued until symptoms cleared completely; this occurr in 8 to 48 days calculated from the day of admission, wi the drugs administered for from 7 to 32 days. Better resul appeared to occur with combinations in which the cortic tropin-cortisone ratios approached each other. There w evidence of moonfacies in all patients from 8 to 23 da after treatment. Three patients had systolic hypertension, b all undesirable side-effects subsided on cessation of medicatio Comparison of the results obtained in the authors' patien with those previously reported by other workers in patien who were given either corticotropin or cortisone alone reveal the superiority of combined hormone therapy over individu administration of these drugs in chorea. However, this findi should not be considered as an implication that hormo therapy is the preferred or acceptable one for this conditio larger series must be studied and more work must be do on the variations of the combination to determine the optimu ratio before any dependable conclusions can be reached.

Minnesota Medicine, St. Paul

36:793-896 (Aug.) 1953

Use of Radioisotopes in Treatment. J. E. Rall.—p. 817.
Diagnosis and Treatment of Postpoliomyelitic Contractures. M. H. Va demoortele and P. R. Lipscomb.—p. 824.
Cancer of Tongue. A. J. Kremen.—p. 828.
Solitary Nonparasitic Cysts of Liver. D. Gaviser.—p. 831.
Use of Kuntscher Nail for Fractures of Femoral Shaft. D. J. Moo —p. 837.
Allergic Reaction to Para-Aminosalicylic Acid: Report of Case. R. Koenig.—p. 850.

New England Journal of Medicine, Boston

249:303-344 (Aug. 20) 1953

Hepatic Coma: Clinical, Laboratory and Pathological Study. S. C. Ca fagno, R. F. DeHoratius, C. M. Thompson and H. P. Schwarz.—p. 303
Carbomycin Therapy: Results of Brief Clinical Trial, Chiefly in Patient with Pneumonia. M. Finland, E. M. Purcell, S. S. Wright and B. De Love Jr.—p. 310.
Spider Angiomas Appearing During Treatment with Trihexyphenidyl C. L. Holt.—p. 318.
"The Doctor and His Books." A. W. Allen.—p. 320.
Effect of Aging of Population on General Health Problems. R. T. Mon roe.—p. 322.
Intrathoracic Hibernoma: Third Reported Case. J. W. Peabody Jr. J. Ziskind, H. A. Buechner and A. E. Anderson.—p. 329.

New York State Journal of Medicine, New York

53:1903-2014 (Sept. 1) 1953

Chairman's Address: Anesthesiology in Present-Day Medical Practice. M. H. Krakow.—p. 1949.

*Clinical and Investigational Experiences with Hypotension Induced by Hexamethonium Bromide. O. Schweizer.—p. 1951.

Clinical Use of Trichlorethylene for Analgesia and Anesthesia. P. W. Searles.—p. 1956.

Supra- and Infradiaphragmatic Diseases. E. A. Naclerio, A. de L. Maynard and J. W. V. Cordice Jr.—p. 1959.

Recent Developments in Diseases Affecting Esophagus. H. A. Andersen. —p. 1965.

Pitfalls in Diagnosis and Treatment of Pulmonary Disease as Experienced by Thoracic Surgeon. W. A. Hudson.—p. 1970.

Atelectasis and Pneumonia as Preoperative Complications of "Acute Surgical Abdomen." B. A. Greene and S. Berkowitz.—p. 1976.

Modern Therapy of Pyodermas. R. M. Montgomery and A. H. Montgomery.—p. 1983.

Acromectomy in Surgical Treatment of Shoulder Lesions. A. A. Michele, T. L. Shinnick and F. J. Krueger.—p. 1985.

Prolonged Use of Cation Exchange Resins in Edematous States. I. S. Friedman.—p. 1989.

Rhinoplasty and Submucous Resection in Identical Twins. D. Bernstein. —p. 1993.

Congenital Deficiency of Fibrinogen in Identical Twins. N. Kugelmass. —p. 1994.

Liver and Kidney Function in Hexamethonium-Induced Hypotension.—The physiological effects of hexamethonium-induced hypotension on the liver and kidneys were studied in 11 normal dogs and 8 women with a diagnosis of cancer of the genital organs. The renal function was impaired in a few of these patients. Premedication, anesthesia, and position were used to stimulate actual clinical conditions. Since control tests indicated little effect from the anesthetic agent, the changes can be ascribed to the effects of the induced hypotension. Six of the dogs in which hypotension was maintained for from 30 to 105 minutes were killed two to three days later. There was moderate to severe congestion of the liver in all but one dog. Focal pericentral vein necrosis was found in the liver sections of one dog and foci of hepatic cells swollen with glycogen in those of another. Biopsy specimens removed from these two dogs under anesthesia before administration of hexamethonium had been negative. There was marked congestion in the spleen of all the dogs and in the kidneys of most. The other organs were normal. In contrast to these findings, there was no significant variation between values of serum bilirubin, cephalin flocculation, and thymol turbidity determined in the women before and after hypotension was induced. These differing results are ascribed to the fact that a reduction of the systolic blood pressure below 60 or 50 mm. Hg could not be reached in most of the women despite complete ganglionic blockade. Other authors have reported that a systolic pressure of 60 mm. Hg is the critical point below which the liver is impaired. The results of the evaluation of the kidney function were similar in the two groups. In the dogs there was a marked decrease in the inulin clearance values after the systolic pressure had reached 60 mm. Hg and in the *p*-aminohippurate clearance values after it had reached 50 mm. Hg. The glomerular filtration rate and the renal blood flow decreased in the women as soon as the pressure fell much below normal values. The degree of impairment corresponded to the level of blood pressure reached and remained constant at a given level of hypotension. The clearance values improved as the blood pressure returned to normal either because the drug failed to maintain a persistent lower tension or following elevation of the feet. Renal blood flow was restored more rapidly than glomerular filtration rate. Normal values were obtained more slowly in patients who had impaired renal function before the experiment. Sodium and potassium excretion was reduced in all the women as the blood pressure dropped. The author concludes that hexamethonium-induced hypotension below a minimum of 60 mm. Hg presents a definite risk of kidney and liver function impairment. Since the danger is much greater in patients with renal or hepatic disease, this technique should be limited to persons whose cardiovascular, renal, and hepatic function is good.

Southern Medical Journal, Birmingham, Ala.

46:729-836 (Aug.) 1953. Partial Index

Mechanism of Cardiospasm. J. T. Howard.—p. 729.

Plastic Approach to Major Lesions of Head and Neck. C. C. Snyder and T. G. Blocker Jr.—p. 736.

Congenital Cysts and Cystic Tumors of Mediastinum. E. H. Little. —p. 742.

Congenital Atresia of Esophagus and Tracheo-Esophageal Fistula. B. P. Clark and J. O. Morgan.—p. 748.

Microscopic Changes of Cervix in Pregnancy. O. J. Hayes and J. M. Glenn.—p. 753.

Clinical Method of Determining Pelvic Disproportion in Pregnancy. N. M. Hornstein.—p. 762.

*Familial Benign Chronic Pemphigus: Report 13 Years After First Observation of New Entity. H. Hailey.—p. 763.

Staphylococcic Ambotoxoid in Treatment of Pustular Acne. W. L. Dobes. —p. 765.

Paraphenylenediamine in Dermatology. L. Schwartz.—p. 769.

*Terramycin in Treatment of Dermatoses: Report on 1,194 Patients. H. M. Robinson Jr., A. Shapiro, I. Zeligman and M. M. Cohen.—p. 773.

Continuous Caudal Anesthesia in Obstetrics: 10 Year Study in Private Hospital. H. S. Orr Jr.—p. 779.

Use of Vaginal Hysterectomy in Plastic Repair. W. E. Brown and W. H. Stenstrom.—p. 782.

Prevenception Insurance: Panhysterectomy Versus Tubectomy. W. L. Thomas.—p. 787.

Vesical Neck Obstruction in Neurogenic Bladders. R. J. Fitzpatrick, L. M. Orr and J. C. Hayward.—p. 791.

Survey of Motility Implants: Preliminary Report. J. O. Martin.—p. 799.

Present Status of ACTH and Cortisone Therapy in Treatment of Asthma: Favorable Response and Indications for Therapy. O. C. Hansen-Pruss.—p. 814.

Factitial Proctitis. F. B. Hodges Jr.—p. 821.

Familial Benign Chronic Pemphigus.—The occurrence of familial benign chronic pemphigus, a familial disease of unknown etiology, is reported in seven men and one woman between the ages of 25 and 56 years. These eight cases were observed in the course of 13 years. There were two pairs of brothers among the men. Cultural studies of the bullae, vesicles, and ruptured lesions failed to demonstrate any causative organism. The usual blood and urine studies were normal. The patients were annoyed and nervous during the attacks but were able to follow their usual occupations. The attacks are less frequent and less severe as the years go by. The author has never seen familial benign chronic pemphigus in a Negro, although there is a large Negro population in his home town.

Oxytetracycline in Treatment of Dermatoses.—Oxytetracycline (Terramycin) was employed for the treatment of 1,194 patients with various dermatoses. Of these, 466 received the drug by mouth and 728 were treated with the local application of 3% ointment. Oral administration in adults was practiced with an initial dose of 2 gm. of the drug followed by 0.5 gm. four times daily. If there was no improvement after two or three weeks of this treatment, the administration of the drug was discontinued. Children under 10 years were given an average dose of 50 mg. per kilogram of body weight divided in four doses in 24 hours. Of the 466 patients given the drug by mouth, 129 were definitely benefited, 197 were occasionally, temporarily, or partially improved, and 140 were therapeutic failures. Definite benefit from oral administration of oxytetracycline resulted in all conditions in which pyogenic organisms were the primary cause of the disease. Oral administration of the drug was of value in the treatment of secondary pyogenic invasion of eczema, epidermophytosis, stasis ulcers, and seborrheic dermatitis but had no beneficial effect on the primary disease. The lesions of granuloma inguinale healed rapidly after the institution of oxytetracycline orally, and no relapses were noted. The lesions of erythema multiforme responded to treatment with oxytetracycline capsules in 17 of 24 patients. No blood dyscrasias were observed in the 466 patients. Of the 728 patients who received local application of oxytetracycline ointment, 302 were definitely benefited, 251 were occasionally, temporarily, or partially improved, and 175 were therapeutic failures. There was rapid healing of pyogenic infections, such as impetigo contagiosa and ecthyma. Oxytetracycline ointment was also of value in the treatment of many skin eruptions complicated by secondary pyogenic invasion but had no effect on the basic dermatosis. A contact sensitivity to the drug developed in 11 patients treated with oxytetracycline ointment. All these patients gave a positive reaction to patch tests with oxytetracycline powder, establishing this as the cause of the reaction, while they had negative results from control tests of the lanolin and petrolatum ointment base. Oxytetracycline is a valuable addition to the drugs already in use for the treatment of skin diseases, but, as with all antibiotics, it should be used only where there is a specific indication.

Surgery, Gynecology and Obstetrics, Chicago

97:257-400 (Sept.) 1953

- *Surgical Treatment of Aneurysm of Abdominal Aorta by Resection and Restoration of Continuity with Homograft. M. E. De Bakey and D. A. Cooley.—p. 257.
- Clinical Significance of Increasing Resistance of Organisms to Antibiotics. F. L. Meleney and B. A. Johnson.—p. 267.
- Histologic Study of Pelvic Connective Tissue. B. Berglas and I. C. Rubin.—p. 277.
- Method of Renal Resection Applicable to Advanced Hemihydronephrosis and Cystic Hydrocalyx. R. R. Landes.—p. 290.
- Open, Transcolonic Ureterointestinal Anastomosis: New Approach. W. E. Goodwin, A. P. Harris, J. J. Kaufman and J. M. Beal.—p. 295.
- *Indications for Surgical Treatment of Coarctation of Aorta. W. C. Sealy. —p. 301.
- Congenital Median Band of Anus: Report of Six Cases with Results of Surgical Treatment and Discussion of Possible Embryologic Events Leading to Abnormality. A. H. Bill Jr. and R. J. Johnson.—p. 307.
- *Struma Lymphomatosa. K. W. Blake and C. T. Sturgeon.—p. 312.
- Further Experimental Studies and Observations on Ureteral Reflux and Urinary Diversion. I. T. Rieger.—p. 317.
- Morphologic Study of Myenteric Plexus and Musculature of Pylorus with Special Reference to Changes in Hypertrophic Pyloric Stenosis. H. H. Belding III and J. W. Kernohan.—p. 322.
- Myenteric Plexus in Chronic Ulcerative Colitis. K. A. Storsteen, J. W. Kernohan and J. A. Bargen.—p. 335.
- An Incisional Approach for Cholecystectomy and Choledochotomy Designed to Reduce Injuries to Common Duct. E. Holman.—p. 344.
- Antibiotics for Surgical Infections of Gastrointestinal Tract. E. J. Pulaski.—p. 353.
- *Polyvinylpyrrolidone in Acute Traumatic and Hemorrhagic Shock. J. W. V. Cordice Jr., J. E. Suess and J. Scudder.—p. 361.

Surgical Treatment of Aneurysm of Abdominal Aorta.—Resection of fusiform aneurysm of the abdominal aorta with restoration of normal blood flow by means of an aortic homograft was performed in seven patients between the ages of 47 and 74 years. The aneurysm in all but one of the patients was of arteriosclerotic origin and in all was located in the segment of the aorta below the origin of the renal arteries, fortunately the most frequent site of aneurysm of the abdominal aorta. One of the seven patients died on the 13th postoperative day of progressive uremia and secondary hemorrhage. All the other patients tolerated the operation well and showed excellent early results. The aneurysm in two of the patients had been wrapped with polythene film containing dicetylphosphate 13 months and 7 months, respectively, prior to resection. The gross and microscopic findings in both cases cast much doubt on the efficacy of this treatment. Aneurysm of the abdominal aorta is a serious condition with grave prognosis; for this reason and because most forms of therapy that have been previously employed are not considered satisfactory, a more aggressive attitude directed toward removal of the diseased tissue is advocated. Although final evaluation of resection of the aneurysm with restoration of continuity with homograft must await further observation and experiences, on the basis of the immediately gratifying results obtained in the seven patients reported on in detail and on five additional patients who recently submitted to this treatment with no deaths and no complications, the authors believe that it is the procedure of choice in the treatment of this condition.

Surgical Treatment of Coarctation of Aorta.—The author reports on 22 patients between the ages of 16 months and 31 years operated on for coarctation of the aorta. In 20 an end-to-end anastomosis and in 2 aorta to subclavian artery anastomosis was performed. Four of the 22 patients had cardiac failure, 6 aortic regurgitation, and 1 mitral stenosis. The combination of aortic regurgitation and stricture would seem to place an undue stress on the heart, for by x-ray examination five of these six patients were observed to have cardiac enlargement. There were five other patients with cardiac enlargement not associated with aortic insufficiency. There was a significant reduction in the size of the heart after the surgical intervention in the 10 patients with enlarged hearts who survived. Of the series, 19 had survived and the only postoperative complication that had occurred was a subarachnoid hemorrhage in one on the fourth postoperative day. In 19 patients followed after the operation for coarctation of the aorta, there was a reduction in the systolic pressure to normal, giving the best indication of a successful repair and restoration of an adequate aortic lumen. Reduction the abnormal stress on the vascular wall at the site of t anastomosis, as well as the removal of the necessity for large volume to pass through collaterals, are important assessing the result of operation. Surgical intervention indicated in nearly one-half of the cases of coarctation the aorta in order to prevent vascular rupture or infection the region of the coarctation. Coarctation when complicat by some other anomaly of the heart or great vessels presen great risk of heart failure. The removal of the coarctation w improve cardiac function in instances of congestive failu when a coarctation of the aorta is associated with anoth defect. The combination of coarctation of the aorta and son other anomaly of the heart or great vessels constitutes t strongest indication for surgery. The operation is mandato in the very young patients when adequate circulation cann be obtained and development is retarded. There are technic advantages in performing the operation when the patients a of the ages of 5 to 10 years. The operation becomes mo hazardous in patients over 30. The mere diagnosis of coarctation associated with mild systolic hypertension does not constitute an unequivocal indication for operation in this ag group.

Polyvinylpyrrolidone in Treatment of Shock.—Polyvinylpy rolidone (PVP-Macrose) was used as emergency treatment i 35 patients with traumatic and hemorrhagic shock of a degrees of severity associated with head injuries, multip fractures, and penetrating wounds of both chest and abdome Some of the patients required blood and plasma subsequentl Of the 35 patients, 34 were treated at the hospital and 1 the scene of a highway accident. The polyvinylpyrrolido solution in volumes of from 1,000 to 2,500 cc. was infuse within periods varying from 45 minutes to 4½ hours. Th clinical responses were judged to be good in all patients, evidenced by prompt rises in blood pressure, improvement i vital signs, decrease in the venous hematocrit and plasm proteins, as well as dilution of the capillary blood as observe in the decline of the specific gravity of peripheral blood. Th urinary output was satisfactory in all. No sensitivity reactio either immediate or delayed were observed. There were n toxic reactions. No interference with blood typing, coagula bility, or depression of hematopoiesis occurred. Althoug polyvinylpyrrolidone is slightly hyperviscous, it flowed readil in the near-freezing weather when injected at the scene o the highway accident. The authors' results fully substantiate previously reported experiences and indicated that polyvinyl pyrrolidone is a valuable adjunct in the emergency treatmen of both traumatic and hemorrhagic shock.

Texas State Journal of Medicine, Fort Worth

49:599-662 (Aug.) 1953

- Tumor Seminar. M. J. Stewart.—p. 601.
- Medical Research in Korean Conflict, with Emphasis on Clinical Pathology. W. D. Tigertt.—p. 622.
- Responsibility in Preventive Medicine. P. H. Streit.—p. 626.
- Electrocardiographic Changes in Relation to Serum Electrolyte Values in Infantile Diarrhea. R. H. Gibbs, M. R. Hejtmancik and H. Wiese —p. 630.
- Industrial Medicine. T. M. Frank.—p. 636.
- Role of Psychiatrist in Special Problems Confronting General Practitioner. N. L. Ballich.—p. 640.

Wisconsin Medical Journal, Madison

52:425-478 (Aug.) 1953

- Treatment of Acne Vulgaris in Teen-Age Males with Oral and Topical Adminstration of Estrogenic Hormone. A. A. Holbrook.—p. 425.
- Indications for Billroth I Partial Gastrectomy. L. E. Fazen Jr.—p. 429.
- Rooming-In and Private Hospital. F. J. Stoddard.—p. 434.

FOREIGN

Archiv für Kinderheilkunde, Stuttgart

146:193-288 (No. 3) 1953. **Partial Index**

Familial Renal Glycosuria During Childhood. H. G. Krainick.—p. 197.
•Interpretation of Epituberculous Shadows. K. Klinke and E. Huth.—p. 219.
Cyanosis Caused by Familial Methemoglobinemia. H. Körver.—p. 231.
Cobalt in Anemia of the Newborn. R. Schmöger.—p. 238.
Paroxysmal Tachycardia in an 11-Year-Old Girl. P. Kuszen.—p. 248.
Hemolytic Icterus in a 12-Year-Old Child: Remarkable Case. G. Hopp.—p. 252.

Epituberculous Shadows.—Klinke and Huth point out that cases of epituberculosis, which at first give the impression of clinical uniformity, later on progress in a diverse manner. This suggests diverse anatomic processes. This form of tuberculosis is seen chiefly in young children between 9 months and 4 years of age and almost never beyond the age of 6. This suggests that epituberculosis may be a tuberculous reaction typical of this age group. The same has been assumed with regard to scrofula, in fact the clinical similarity between these two diseases has led some to suggest that epituberculosis is scrofula in the lungs and a manifestation of exudative diathesis. Experiments on animals proved that epituberculosis is a mixture of atelectasis and hyperergic inflammation. These two factors explain the different modes of pathogenesis and the varying courses of epituberculosis. 1. There is the atelectatic form without or with only slight hyperergic reaction. This form develops when the bronchus is compressed by a bronchial lymph node and when there is only slight or no toxic invasion. This form appears suddenly and also subsides rapidly, somewhat like a purely mechanical atelectasis. 2. There is compression as explained under point 1, but, as the result of the invasion of toxins into the atelectatic region, there is a stronger hyperergic reaction. 3. The debris of a lymph node that contains few or no bacilli perforates into the bronchus; a hyperergic inflammation and atelectasis develop. The clinical symptoms are the same as those that develop under the conditions described under point 2. Recovery involves shrinkage of the atelectatic process. 4. There is invasion by infective material, with simultaneous hyperergic reaction. In these cases, the clinical picture resembles that developing under the conditions described under points 1 and 3. Partial caseation and its sequelae follow. Transitional and complicating forms also occur. The authors conclude that epituberculosis represents a hyperergic, exudative reaction, which occurs particularly in young children who at the same time have atelectasis either as the result of a compressing bronchial lymph node or because the bronchial mucosa is swollen because the bronchus has been invaded by a perforating lymph node.

Archivio Italiano di Chirurgia, Bologna

76:169-248 (No. 3) 1953. **Partial Index**

Contribution to Study of Pulmonary Tuberculosis Associated with Hydatid Cyst. G. Fojanini and G. Di Matteo.—p. 169.
Torsion of Spleen. A. Settimi.—p. 196.
*Clinical and Statistical Study of Gastroduodenal Hemorrhages. A. Parentela and A. Stochino.—p. 209.

Hemorrhage from Gastric and Duodenal Ulcer.—From 1938 to 1951 a total of 1,845 patients with ulcers were admitted to the surgical clinic of the University of Rome. The authors studied in particular the 315 (17.07%) patients of this group in whom the ulcer was complicated by hemorrhage. They found gastric ulcer in 55, duodenal ulcer in 208, postoperative peptic ulcer in 31, gastric ulcer with duodenal ulcer in 8, malignant ulcer in 7, perforating ulcer in 2, and ulcer secondary to gastroenterostomy in 4. They divided the patients into three groups according to whether the hemorrhage did not produce shock (moderate hemorrhage), produced severe collapse (massive hemorrhage), or did not produce shock but reappeared frequently during the course of the disease and caused a severe anemia (repeated hemorrhage). Massive hemorrhage was found in 18.18% of the patients with gastric ulcer and in only 9.58% of those with duodenal ulcer. This difference is ascribed to the fact that in patients with gastric ulcer the bleeding is nearly always due to an erosion of the pancreaticoduodenal, the right, or the left gastric artery or their main branches, whereas in patients with duodenal ulcer it is frequently due to an erosion of the small vessels of Meissner's plexus. The percentage of massive hemorrhage was not greater in older persons, as is commonly believed. However, the mortality rate for massive hemorrhage is generally higher in older persons, perhaps because of a deteriorated general condition. The hemorrhage was commonest in patients between 30 and 50 years of age, and it was found 5.1 times oftener in men than in women. Treatment of patients in whom an ulcer is complicated by bleeding should first be medical to prepare them for the intervention. Intervention should be performed only after the hemorrhage has been controlled and the patient's general condition improved. Early surgical intervention may be justified only in those patients in whom the clinical picture continues to deteriorate despite medical therapy. At the University of Rome this therapy consists of bed rest, proper diet, application of an ice bag to the epigastrium, administration of sedatives, and, most of all, repeated transfusions of small quantities of blood. Surgery was not performed on 83 patients because either they or their families refused it or because their general condition had improved or had remained unchanged. All these patients left the clinic, and three of them have since died. Gastric resection was the operation of choice for 182 patients. Gastroenteroanastomosis and vagotomy was performed in the others because of unfavorable local conditions. Eight of these patients have died. In two of them, the hemorrhage was associated with a perforating ulcer. Of the 11 patients who died, 54.54% were more than 50 years old.

Arquivos de Neuro-Psiquiatria, São Paulo

11:209-316 (Sept.) 1953. **Partial Index**

Phantom Limb Feeling and Body Scheme: Study on Regression of Phantom Limb. M. in der Beeck.—p. 223.
•Treatment of Pernicious Anemia of Addison-Biermer: Comparative Study on Effects of Liver Extract, Folic Acid and Vitamin B_{12} on Blood and Neurologic Symptoms. H. Martins Canelas and M. Abu Jamra.—p. 229.
ACTH in Combined Degeneration of Bone Marrow: Early Results. H. Martins Canelas and J. A. Levy.—p. 253.

Liver Extract, Folic Acid, and Vitamin B_{12} in Pernicious Anemia.—Comparative observations were made on 15 patients with pernicious anemia and signs of combined degeneration of the spinal cord. The patients either had not had a previous treatment or were in the course of a hematoneurological recurrence of the disease after discontinuation of treatment. They were observed in three groups of five patients each, according to the drug they received. The drugs were given intramuscularly, twice a week for a month, up to the following total doses: vitamin B_{12}, 0.1 mg., folic acid, 0.5 gm., and liver extract, 10 cc. (150 to 200 USP antianemic units). No additional treatment was given. The effects of the drugs were evaluated from the results of repeated hematological and neurological examinations. The drugs proved to be of value in the treatment of anemia, with equally good results from liver extract and folic acid and less markedly good results of vitamin B_{12}. Improvement in the red cell count was in correlation to the increase of hemoglobin. The effects of the drugs on the neurological syndrome were favorable. Folic acid proved to be less effective than vitamin B_{12}, but slightly more effective than liver extract. The course of pallesthesia paralleled improvement of the general neurological symptoms. Improvement of subjective symptoms was more marked than that of objective signs. The effect of the drugs on the neurological syndrome was in disagreement with those observed on the blood, as no correlation between the course of pallesthesia and the red cell count was observed. The three drugs caused improvement in the same degree of the dorsal funicular symptoms. The pyramidal symptoms greatly improved from the treatment with vitamin B_{12} or folic acid. The peripheral syndrome improved by treatment with vitamin B_{12} or liver extract. The best results with any of the three drugs were observed by the improvement of mental disorders, pyramidal deficit, hypotonia, and disorders of joint sensibility. The effects of the treatment on certain neurological signs were mediocre. The disorders of tactile sensibility grew worse with the treatment.

Boletín Asoc. Méd. de Puerto Rico, San Juan

45:279-326 (Aug.) 1953. Partial Index

Tuberculosis in Children: Criteria for Sanatorium Care. Classification and Chemotherapy. J. E. Sifontes, P. Diaz de Garau, M. Alvarez Pagán and R. R. Acosta.—p. 279.
*Left Inguinal Hernia Involving Ovary, Tube and Uterus with Concomitant Absence of Vagina: Case. L. J. Torres Oliver.—p. 294.

Internal Genital Organs in Inguinal Hernia.—The subject of this report is one of a pair of identical twin girls 20 years old. She never menstruated. The other sibling had normal menstruation since the age of 13 years. The members of the family are all normal. Physical examination showed a girl apparently normal. She had a left inguinal hernia. The external genitalia and the urethra were normal. The hymen was well developed and totally closed. Rectal examination revealed absence of the uterus, tubes, and adnexa. By flexing the examining finger toward the examiner, it was observed that there was no vagina. Cystoscopy and pyelography showed a normal urinary apparatus. At operation to correct the hernia, rudimentary internal genital organs were observed. The pathological examination of the structures confirmed that the contents of the hernia consisted of a rudimentary uterus, an ovary, and a cystic fallopian tube. A laparotomy was not done to ascertain whether a right ovary, a right tube, and possibly an unicornus uterus were present in the inguinal canal or in the pelvis where they could not be reached by palpation. The case is discussed from an embryologic point of view. It is reported because inguinal hernias containing the internal genital organs are extremely rare in young girls and still more rare in women. Congenital abnormalities of the internal genital organs usually coexist with abnormalities of the urinary apparatus, but this case constitutes an exception.

British Journal of Ophthalmology, London

37:449-512 (Aug.) 1953. Partial Index

Ocular Haloes and Coronas. G. C. Simpson.—p. 450.
Degenerations of the Dog Retina: II. Generalized Progressive Atrophy of Hereditary Origin. H. B. Parry.—p. 487.
Preparation of Egg Membrane for Keratoplasty. I. Lloyd.—p. 503.
Staining of Toxoplasma in Histological Sections. C. Smith.—p. 504.

British Journal of Radiology, London

26:385-440 (Aug.) 1953. Partial Index

SYMPOSIUM ON PLACENTOGRAPHY

Review of Placentography. J. C. Moir.—p. 385.
Direct Placentography. M. E. Grossmann.—p. 388.
Localisation of Placenta by Means of Arteriography and Auscultation. O. Norman.—p. 393.
Diagnosis of Placenta Praevia by Soft Tissue Radiography. A. S. Whitehead.—p. 401.
Radiological Localisation of Placenta. F. Reid.—p. 406.

Physico-Chemical Method of Testing Protective Action of Chemical Compounds Against Lethal Effects of Ionizing Radiations. P. Alexander.—p. 413.
*Investigation into Relationship Between Physiologically Low Leucocyte Counts and Sickness Absence. F. M. Turner.—p. 417.
Dosage Control Through Radiographs of Radon Seed Implants. R. F. Farr.—p. 429.

Physiologically Low Leukocyte Counts and Sickness Absence in Radiation Workers.—The British X-Ray and Radium Protection Committee recommended that no person should be employed as an x-ray or radium worker if the general health or the total white blood cell and lymphocyte counts are below the lower limit of normal. The question was raised whether apparently healthy persons with a persistent low leukopenic count run a greater risk from exposure to radiation than those with counts in the so-called "normal" ranges. As far as the author is aware there is no evidence that such persons are, in fact, more susceptible to illness than those with counts at the usual higher levels. It was hoped that the medical and casualty records of the Atomic Energy Research Establishment employees with a physiological "leukopenia" might throw some light on this problem. The sickness and casualty records of 154 workers with persistently low leukocyte counts were compared with those of a group equivalent in number, sex and age, and with normal leukocyte counts. The casualty rates were similar in both groups, but the sickness rates of the low count group were significantly lower than those of the control group. It appears that a count persistently below 5,000 leukocytes or 1,500 lymphocytes is compatible with adequate resistance to infection, and with speedy response of the cellular defense mechanism, should infection occur. It is suggested that persons should not be barred from taking up work with ionizing radiations or radioactive isotopes solely on the basis of a physiological "leukopenia," but that the clinical assessment of general health should be the determining factor.

British Journal of Surgery, Bristol

40:521-642 (May) 1953

Adenomatous Polyps of Small Intestine. W. R. Hunter and W. A. Wilson.—p. 521.
Casts of Cerebral Ventricles. R. J. Last and D. H. Tompsett.—p. 525.
Thyroidectomy: Review of 1,000 Consecutive Cases. M. J. Lange.—p. 544
Congenital Defects of Anterior Abdominal Wall. G. M. Wyburn.—p. 553.
Cysts of Semilunar Cartilages of Knee-Joint. J. G. Bonnin.—p. 558.
Haemangioma of Spleen: Relation to Other Cystic Tumours, Case Report of Giant Cavernous Haemangioma. R. Smith and N. F. C. Gowing—p. 566.
Injuries to Large Lymph-Ducts. A. L. McGregor.—p. 569.
Partial Spontaneous Rupture of Oesophagus. E. M. Nanson and R. M Walker.—p. 574.
Lateral Duodenal Diverticula: Report of Two Cases. R. E. Horton and J. H. Peacock.—p. 577.
Neurinomas of Cervical Sympathetic System with Report of Case. L. Rogers.—p. 579.
Funicular Suture and Funicular Exclusion in Repair of Severed Nerves. S. Sunderland.—p. 580.
Diagnosis of Depth of Burning. D. MacG. Jackson.—p. 588.
Surgically Damaged Ureter: Method of Uretero-Vesical Anastomosis. R. C. Begg and P. J. Dennehy.—p. 596.
Mediastinal Gastric Cyst Presenting in Neck. H. O. Jones and W. Waugh.—p. 599.
Hydronephrosis in Children: Clinical Study of 78 Cases with Special Reference to Role of Aberrant Renal Vessels and Results of Conservative Operations. H. H. Nixon.—p. 601.

British Medical Journal, London

2:353-404 (Aug. 15) 1953

Insulin as Growth Hormone. J. Salter and C. H. Best.—p. 353.
Insulin-Like Action of Growth Hormone. J. H. Ottaway.—p. 357.
*Structural Changes in Prostatic Cancer After Bilateral Adrenalectomy: Report of Case. L. M. Franks.—p. 359.
Haemolytic Anaemia in Typhoid Fever: Report of Six Cases, Together with Effect of Chloramphenicol and A.C.T.H. A. J. S. McFadzean and G. H. Choa.—p. 360.
Myxoedema Coma. V. K. Summers.—p. 366.
*Turner's Syndrome in the Female: Congenital Agonadism Combined with Developmental Abnormalities. W. P. U. Jackson and R. Sougin-Mibashan.—p. 368.
*Turner's Syndrome in the Male. R. Sougin-Mibashan and W. P. U. Jackson.—p. 371.
Electrolyte Imbalance After Operation for Pituitary Tumour. E. A. W. Houghton.—p. 372.
Myocardial Calcification Associated with Pituitary Adenoma and Obesity. P. G. Cronk.—p. 374.
Hop Dermatitis in Herefordshire. J. S. Cookson and A. Lawton.—p. 376.
Rapid Method for Detection of Barbiturates in Urine and Stomach Contents. R. Marshall.—p. 379.

Changes in Prostatic Cancer After Adrenalectomy.—Franks says that bilateral adrenalectomy and orchidectomy was claimed by Huggins and others to have induced substantial clinical improvement in some cases of advanced prostatic carcinoma. The case presented by Franks concerns a 63-year-old man with an estrogen-resistant prostatic carcinoma. He was subjected to orchidectomy with no clinical improvement and finally to bilateral adrenalectomy. He died from an acute pulmonary infection 40 days after the second operation. Massive necrosis was found in the primary growth and in its metastases in the regional lymph nodes, liver, and lung. The author admits that necrotic areas are commonly seen in rapidly growing tumors, but that they do not as a rule involve both primary and secondary tumors simultaneously. No similar change has been seen in 29 other cases of prostatic carcinoma. Other possible causes are estrogens, cortisone, or insulin. The first can probably be excluded, because the cytotoxic changes it produces in prostatic cancer differ from those seen in this case. There is little convincing evidence that cortisone affects the growth of human prostatic tumors. It is also unlikely that insulin or the diabetic state could produce such massive necrotic lesions. The evidence suggested that the changes were caused by the removal of both adrenals. One further point of interest in this case is the absence of clinical evidence of regression in spite of the massive and widespread destruction of tumor cells.

Turner's Syndrome in the Female.—Jackson and Sougin-Mibashan present the histories of two young women and one 10-year-old girl in whom congenital agonadism was combined with developmental abnormalities. They emphasize that all congenital hypogonadism is not of pituitary origin. They describe the syndrome of primary ovarian aplasia. Turner, in 1938, first commented on the peculiar combination of webbed neck, short stature, and female infantilism. The important features of the condition are considered, and these are so characteristic that they present an unmistakable and diagnostic picture, plainly distinct from primary hypopituitarism, cretinism, eunuchoidism, or any other clinical state. Final proof of diagnosis should be sought in the urinary gonadotropin level and the demonstration of lack of ovarian tissue on laparotomy. In the two young women, the urinary level of follicle-stimulating hormone was high, a fact which exculpated the pituitary gland. Although the third patient was only 10 years old, the authors believe that the diagnosis of Turner's syndrome is definite. The curious clinical attributes of these patients have made them subject to much pathogenetic speculation. Most writers, accepting a genetic ovarian defect, agree that this alone cannot explain all the abnormalities. The occurrence of multiple congenital anomalies in the syndrome makes it likely that shortness of stature is but one manifestation of a germinally defective soma and is not directly related to the degree of ovarian agenesis. The presence of a little pubic and axillary hair and the urinary 17-ketosteroids in Turner's syndrome is ascribable to adrenal activity. The authors applied some of the recently adopted tests for adrenal cortical function to their first two patients and obtained normal responses.

Turner's Syndrome in the Male.—Ovarian agenesis, which is regarded as the causative factor of Turner's syndrome in women, means lack of graafian follicles and hence an absence of both ova and female sex hormones (germinal and endocrine deficiency). The affected person, therefore, is not fertile, does not menstruate, and lacks breast development, while her pituitary gland produces large amounts of gonadotropic hormone in an attempt to stimulate a nonexistent end-organ. It is not easy to define the homologous condition in the male because, in the testis, the germinal and the endocrine tissue (believed to be situated in the Leydig cells) are separate, so that a lack of development of either or both might be claimed to represent the sexual side of Turner's syndrome in the male. The authors feel that this explains why the five cases of male Turner's syndrome so far reported are less homogenous than those in the female group, since they show varying degrees of endocrine deficiency and will not, for instance, be expected necessarily to have high urinary gonadotropins. The Klinefelter, Reifenstein, and Albright syndrome is somewhat comparable, comprising azoospermia, small testicle, high urinary follicle-stimulating hormone, and gynecomastia. The basic lesion is different—hyalinization and sclerosis of tubules rather than lack of development. The authors list the "mixture" of germinal and endocrine defects in the previously reported cases of Turner's syndrome in males and describe a case that they regard to be an example. The man was short, his neck was webbed, and he denied ever having experienced sexual feelings of any kind and stated that he had never had an erection or an emission. Radiographs showed mild generalized osteoporosis. The high urinary gonadotropin content confirmed primary gonadal insufficiency.

2:405-450 (Aug. 22) 1953

Hunterian Era: Its Influence on Art and Science of Surgery. L. E. C. Norbury.—p. 405.
Treatment of Patients with Myelosclerosis. R. A. Hickling.—p. 411.
*Polycythaemia, Leuco-Erythroblastosis, and Myelosclerosis. J. W. Beattie and J. L. Withey.—p. 414.
Some Complications of Temporal Arteritis. D. Kendall.—p. 418.
Dietary "Fibre" and Pregnancy Toxaemia. E. H. Hipsley.—p. 420.
Prostatic Dyspepsia. B. E. C. Stanley.—p. 423.
Hyperparathyroidism with Normal Serum Calcium. H. G. Mather.—p. 424.
Treatment of Lime Burns of Eye with Corvasymton and Undermining of Conjunctiva. F. J. Damato.—p. 426.
*Poliomyelitis in Children Under 6 Months in England and Wales During 1950. D. H. Geffen and S. Tracy.—p. 427.

2:451-520 (Aug. 29) 1953

Challenge to Medical Education in Second Half of 20th Century. L. Whitby.—p. 451.
What is Education? R. Livingstone.—p. 454.
History of Medical Education. J. F. Fulton.—p. 457.
Medicine—Technology or a Profession. S. M. K. Mallick.—p. 461.
Requirements for Entry Into Medical Schools: Selection of Students. V. Johnson.—p. 467.
Aims and Content of Medical Curriculum: Undergraduate Medical Education. A. Mudaliar.—p. 468.
Techniques and Methods of Medical Education. A. Hurtado.—p. 469.
Preventive and Social Medicine. R. Sand.—p. 471.
Physique and Choice of Faculty. R. W. Parnell.—p. 472.

Polycythemia, Leuko-Erythroblastosis, and Myelosclerosis.—The occurrence of polycythemia is reported in two women aged 69 and 48 and in a 51-year-old man. Leukoerythroblastic anemia and myelosclerosis subsequently developed after 4, 12, and 5 years, respectively. These three patients presented the characteristic symptoms, splenomegaly, and other physical signs and hematological features of polycythemia vera and resembled others described in that the polycythemic blood cell count figures were not very high. The syndrome, comprising leukoerythroblastosis, myeloid metaplasia, and myelosclerosis as revealed in the literature, has a varied clinical picture. It is thought to be distinct from myeloid leukemia. The authors point out that Vaughan and Harrison's view of the concomitant development from a common source—the primitive reticulum cell of Maximov—of extramedullary hematopoiesis and myelosclerosis following some, as yet unknown, stimulus offers a reasonable explanation of the events.

Poliomyelitis in Children Less than 6 Months of Age.—Of 82 cases of poliomyelitis in children less than six months of age in England and Wales during 1950, 77 were paralytic and 5 nonparalytic. The incidence of paralytic poliomyelitis in infants less than six months of age was 56.6% of what it would have been if such incidence had been equally distributed in six month age groups in children less than 15 years of age. Nonparalytic poliomyelitis is infrequently diagnosed in infants less than six months of age. Of the 82 patients, 19 died, a mortality rate of 23%. This mortality rate increased as age diminished. In infants less than nine weeks of age the mortality rate was 37.5%. Of the 58 children with paralytic poliomyelitis who survived, 30 were either very severely or severely paralyzed, and of these only 2 made a complete recovery. Of the 19 children who died, 4 were being entirely breast-fed at the time of death, 8 had been breast-fed for varying periods, 4 had never been breast-fed, and in the remaining 3 no information could be obtained. Of the 63 surviving children, 15 were entirely breast-fed, 32 had been breast-fed for varying periods, 10 had never been breast-fed, and of 6 no history was obtained. Of 13 infants less than six weeks of age with poliomyelitis, 6 died and 7 survived. Of the seven surviving, five were entirely breast-fed, and of these three had a mild attack. In the absence of a history of poliomyelitis in 76 of the 82 mothers, the authors were unable to make any deductions of value from these figures. The preparalytic symptoms were not diagnostic except of an acute infection in an infant less than six months of age.

Clinica, Bologna

14:161-238 (No. 3) 1953. **Partial Index**

Importance of Homan's and Bauer's Signs for Early Diagnosis of Thromboembolic Disease. G. Rollo.—p. 161.
Behavior of Pressure of Pulmonary Circulation to Action of Aminophylline. M. Foscarini and L. Galassi.—p. 167.
Interventions on the Single Kidney. R. Scoccianti.—p. 173.
*Liver Cirrhosis Associated with Gastroduodenal Ulcer. R. Antonini and F. Marinoni.—p. 184.

Liver Cirrhosis with Gastroduodenal Ulcer.—The files of the 6,859 patients on whom autopsy was performed at the University of Pavia Institute of Pathological Anatomy from 1901 to 1951 were reviewed. The cases in which liver cirrhosis was associated with gastroduodenal ulcer were studied in particular. The files of patients younger than 19 years were not considered, since these two processes are rare in the young. The authors found 175 cases of liver cirrhosis (2.55%) and 122 of gastroduodenal ulcer (1.77%). There were 142 cases of atrophic cirrhosis (Laennec's cirrhosis), 12 cases of biliary cirrhosis, 12 of initial cirrhosis, 6 of hypertrophic cirrhosis, and 3 of fatty cirrhosis. There were 87 cases of gastric ulcer, 31 of duodenal ulcer, and 4 of gastroduodenal ulceration. Cirrhosis associated with gastroduodenal ulcer was found in seven cases. This association was commonest among men; six of the seven patients had atrophic cirrhosis and four of them had multiple ulcers. A cause and effect relationship between the two processes is suggested. Some authors are of the opinion that in these patients the liver cirrhosis may be secondary to the ulcer. The authors state that portal hypertension or disturbance of biliary secretion due to liver cirrhosis may be the cause of ulcer formation.

Cuore e Circolazione, Rome

37:65-128 (April) 1953

Sudden Death in Patients with Heart Disease. D. Cavallazzi.—p. 65.
Partial Atrial Fibrillation: Partial Fibrillation and Flutter of Left Atrium, of Unusual Duration, Produced in Dog with Injection of Dihydroergotamine and Regressed Spontaneously. V. Corsi.—p. 76.
*Arterial Pressure and Its Relationships to the Physical Constitution. L. Russo.—p. 86.

Blood Pressure and Physical Constitution.—The arterial pressure of 2,410 men, 20 to 30 years old, with normal cardiovascular and renal functions was studied to determine whether there is a relationship between a person's blood pressure and his physical constitution. The men were divided into three groups according to Pende's biometric system. By this method a person is classified on the basis of the ratios that exist between his height and weight and between his height and the perimeter of his chest. The systolic pressure was highest in vigorous men of average height and with well-developed muscles. It was also somewhat elevated in short robust men with well-developed muscles, although these had the highest diastolic pressure. It was especially high in those who were engaged in heavy athletics (wrestling and boxing). The author ascribes this to hypertrophy of the peripheral arteriolar bed caused by the heavy exercise. In general, all the robust persons with well-developed muscles had values of systolic and diastolic pressure that were more or less elevated regardless of the man's height. These findings proved that the blood pressure is also correlated with the neuroendocrinologic constitution of the person. Hyperadrenalism is characteristic of short vigorous persons of the muscular type who are generally predisposed to essential hypertension. In the author's study this type of man had not only increased systolic pressure but also, and chiefly, increased diastolic pressure. Hypercrinism is characteristic of robust persons of average height and with well-developed muscles. In this study men of this type had elevated blood pressure values. Tall, lean persons generally have normal (sthenic) or diminished (asthenic) function of the adrenal glands. In the author's study this type of man had low blood pressure values.

Deutsche medizinische Wochenschrift, Stuttgart

78:1005-1048 (July 17) 1953. **Partial Index**

Modern Points of View in Treatment of Carcinoma of Uterine Cervix. G. Schubert.—p. 1005.
Bronchitis. W. Teschendorf.—p. 1009.
*Hepatolienal Manifestation in Patients with Peculiar Form of Acute Anterior Poliomyelitis. H. Kalk and I. Faust.—p. 1014.
*Large Tonsils: Results of Serial Examinations. E. Müller.—p. 1017.

Hepatolienal Manifestations of Acute Anterior Poliomyelitis.—The occurrence of hepatitis is reported in 5 of 21 patients with acute anterior poliomyelitis who were admitted to the city hospital of Kassel, Germany, in 1952. Of the five patients, two were adults and three were children. Enlargement of the liver and the spleen was observed in all these patients; the hepatolienal manifestations disappeared after several days or weeks. Icterus occurred in two patients, on the 57th day of the disease in a 13-year-old boy and on the 7th day of the disease in a 3-year-old girl. It subsided after two and a half weeks in the older patient, and after nine days in the younger patient. Liver puncture, which was performed in one of the adult patients, revealed activation of the cells of the capillary walls and occasional periportal infiltration without invasio of the lobules and without impairment of the liver cells. Liv function tests (bilirubin in serum, Gros, Takata, thymol, an formol-gel) were performed but did not reveal any signs dysfunction, except for an increased amount of bilirubi in the blood serum and a slight drop of the Gros titratio numbers during the hepatolienal manifestations. In tw patients, the lymphocytes and the reticular elements (lymphoi cells) were increased simultaneously with the enlargement the liver and the spleen. It is suggested that poliomyeliti should no longer be considered a disease limited to th nervous system; on the contrary, poliomyelitis, similar other virus diseases such as epidemic hepatitis, infectiou mononucleosis, and epidemic parotitis, is to be considered disease of the entire organism, with involvement of th reticuloendothelial system. Depending on the various types the virus, one or the other of the organic systems may predominantly, but not exclusively, affected. The five patient reported on apparently presented a peculiar, previously un known form of poliomyelitis, rather than a double infection.

Large Tonsils.—Of 641 children between the ages of 5 and 1 years who were examined in school, 20 had had their tonsil removed; of the remaining 621, 87 (14%) had healthy tonsils 368 (59.3%) had chronic tonsillitis limited to the tonsils, an 166 (26.7%) had chronic tonsillitis, with peritonsillar adhesions. Extremely small tonsils were observed in 192 childre (30.9%) and extremely large tonsils in 112 (18.5%). The preoperative condition of the tonsils for which tonsillectomy was indicated was compared with the microscopic findings in the specimens after tonsillectomy. Follow-up examinations were carried out for six months to one year in 85 children who had tonsillectomies. The author's statistical data and the results of the various examinations suggest that extremely large tonsils do not occur in childhood as frequently as had been assumed. The examining physician may often be misled by an optical illusion, that is, the tonsils may appear very large only because the pharyngeal space of a child is relatively small and the tonsillar fossa flat. Hyperplastic tonsils are rare and were observed only in 2 (1.7%) of the 621 children. Form and size of the tonsils depend mainly on inflammatory factors beside hereditary factors such as growth capacity of the crypts and of the lymphatic tissue. The mere size of the tonsils as a mechanical obstacle requires surgical treatment only in exceptional cases. Removal of tonsils is indicated by a chronic condition of local inflammatory type or by general pathological phenomena with a local cause. Chronic tonsillitis nearly always is associated with swelling of the regional lymph nodes, which, therefore, are of significance in diagnosis, particularly in children. Enlargement and induration of lymph nodes subside partly or completely after the enucleation of the tonsils in a large number of cases. This applies to large as well as to small tonsils that had been affected by chronic inflammation.

Die Medizinische, Stuttgart

No. 29/30:937-976 (July 25) 1953. **Partial Index**

*Diagnostic Value of Cardiac Catheterization in Patients with Acquired Valvular Defects. O. Bayer and H. H. Wolter.—p. 937.
New Possibilities of Therapy with Repository Insulins. P. Petrides. —p. 940.
Hibernation—an Actual Problem of Comparative Physiology. E. L. Schäfer.—p. 941.
Respiration as Factor of Evaluation in Patient with Cardiac Disease. H. C. Landen.—p. 946.

Cardiac Catheterization in Patients with Acquired Valvular Defects.—According to Bayer and Wolter, defects of the mitral valve are primarily associated with characteristic changes in the pulmonary circulation. The pulmonary capillary pressure, which may be obtained by advancing the cardiac catheter into a peripheral pulmonary artery branch up to the occlusion of the lumen, is a useful measure for the pressure conditions in the left auricle. Despite the elevated pressure gradient of the flow into the left ventricle (ratio: pressure of left auricle and diastolic ventricular pressure), reduced expired volumes may be observed in most of the patients with severe mitral stenosis. Using the Gorlin and Gorlin formula, it is possible to calculate the remaining surface of the valvular orifice from the obtained data, namely, (1) the minute volume in relation to the diastolic time of the inflow (diastolic flow volume) and (2) the pressure gradient at the valve itself. Thus the exact degree of the stenosis can be determined. Besides the information gained from the recording of the pulmonary capillary pressure curve about the mean pressure in the left auricle, changes in the pulmonary capillary pressure curves due to mitral regurgitation may be detected. Observations in 140 patients with mitral stenosis and combined mitral defects showed that not only waves of pronounced ventricular reflux may characterize the mitral insufficiency, but already slight increases in the systolic portion of the curve may indicate the presence of regurgitation. The evaluation of such changes must be made carefully with consideration of additional factors, such as mean filling pressure of the auricle, mean pulmonary capillary pressure, and auricular fibrillation. The exact evaluation of the tracing of the pulmonary capillary pressure curve is of great importance because of the occasional absence of clinical symptoms of mitral insufficiency. In several patients with a diagnosis of mitral regurgitation based exclusively on the changes of the pulmonary capillary pressure curve, this diagnosis was established by surgical intervention while preoperative phonocardiographic recordings and roentgenologic examination did not suggest mitral insufficiency. In patients with pure mitral insufficiency in the state of left decompensation, pronounced increases of the mean pulmonary capillary pressure up to values of 30 to 45 mm. Hg, like those associated with mitral stenosis and combined mitral defects, were not observed. Increased pressure in the left auricle and herewith in the pulmonary capillary pressure curve occurred only with failure of the left ventricle and increased diastolic ventricular pressure. Corresponding changes in the pressure curve of the right auricle were observed in patients with insufficiency of the tricuspid valve. The results of catheterization of the heart may also establish the clinical suspicion of a relative pulmonary insufficiency occasionally associated with mitral stenosis. An increased amplitude with considerable drop in diastolic pressure may be observed as the essential criterium in the pressure curve of the pulmonary artery.

Edinburgh Medical Journal

60:341-372 (Aug.) 1953

Development and Growth of Intervertebral Disc. R. Walmsley.—p. 341.
Lysivane in Treatment of Parkinsonism. R. O. Gillhespy.—p. 365.
Transactions of the Medico-Chirurgical Society of Edinburgh Session 132. —1952-1953; Pp. 59-74.
Thymectomy in Myasthenia Gravis. D. M. Dunlop.—p. 59.
Thymectomy in Myasthenia Gravis. K. P. Brown.—p. 70.

60:373-408 (Sept.) 1953

Hazards of Major Surgery. J. Bruce.—p. 373.
Case of Gastro-Intestinal Lymphomatosis. H. Russell.—p. 397.

Giornale di Clinica Medica, Parma

34:649-756 (June) 1953. **Partial Index**

*Juice of Licorice in Treatment of Ulcer: Experimental and Clinical Contribution. G. Carpetti and B. Magnani.—p. 649.
Behavior of Cardiovascular Apparatus During Treatment with Sulfureous Mud Baths: Clinical and Electrocardiographic Study. C. Forattini. —p. 673.
Introduction to the Study of States with Blood Fibrinogen Deficiency. M. Ferrari.—p. 687.

Licorice Juice in Treatment of Ulcer.—Juice of licorice added to the diet of eight normal guinea pigs for from three to four weeks produced a weight gain of 14% of the initial values. The weight gain in six control guinea pigs was only 6% of the initial values. Toxic manifestations never appeared, and autopsy (none of the animals died spontaneously) revealed no structural abnormalities. There was, however, a 16% decrease in the weight of the adrenal glands, and their morphological aspect resembled that which follows administration of large doses of desoxycorticosterone. It indicated a functional rest of the glomerular zone. The authors produced acute peptic ulcers in 14 guinea pigs by an intensive stimulation of the gastric secretion with administration of large doses of histamine. The general toxic actions of the drug were blocked by concurrent administration of histamine-antagonizing agents. Then eight of these animals were given juice of licorice in doses of 2 gm. per kilogram of body weight daily for 30 to 36 days. The secretion of the gastric mucosa was not inhibited nor was the formation of ulcer prevented. In vitro studies on the intestine removed from guinea pigs revealed only a slight antispastic action of the juice. The authors gave orally 20 to 25 gm. of juice of licorice in 100 cc. of water to four patients with gastric ulcer before and after meals. A month later there was a subjective improvement with progressive disappearance of the symptoms, gain of appetite and sometimes of weight. Despite these improvements, however, the gastric hyperchlorhydria persisted or was increased. Thus, these clinical results cannot be attributed to a modification of the gastric secretion nor to the mild antispastic action of the juice. They are ascribed to the desoxycorticosterone acetate-like activity of this juice that has been described by other authors.

Hoja Tisiológica, Montevideo

13:107-238 (June) 1953. **Partial Index**

Treatment of Pulmonary Tuberculosis: Isoniazid by Oral Route. M. Mello Aguerre and R. J. Pintos Fuentes.—p. 107.
*Hypertrichosis in Tuberculous Meningitis: Two Cases. R. Cetrángolo. —p. 136.
Therapeutic Pneumothorax: General Study. R. E. Marin Pittaluga. —p. 178.
Epidemiological Significance of Study of Contacts in Tuberculosis. R. Racine.—p. 196.

Hypertrichosis in Tuberculous Meningitis.—Hypertrichosis occurs in a high percentage of cases of tuberculous meningitis in the course of antibiotic therapy. It is more frequent in children between the ages of 2 and 5 years and in young adults than in patients of other ages. The condition develops within the first three months of antibiotic therapy, lasts three months to one year, and disappears with the clinical improvement of the patient. Its type, diffusion, and location depend on the acuteness of the sympathetic disorders associated with the tuberculous meningitis. The author reports two cases, one in a child 5 years old and another in a girl 17 years old. Tuberculous meningitis followed a favorable course due to administration of large doses of isoniazid by the intraspinal and oral routes. Marked hypertrichosis of the face and lower limbs appeared early in the course of the antibiotic therapy and has persisted to the present after clinical cure of the patients. The author directs attention to the following facts: (1) disorders of hair growth are reactions of the sympathetic nervous system to spinal paralysis, multiple sclerosis, and tuberculous internal hydrocephalus, all of which have been reported in the literature and (2) antibiotic therapy in tuberculous diseases without meningitis, as well as in nontuberculous meningitis and nontuberculous internal hydrocephalus is not followed by hypertrichosis. He states that hypertrichosis in the course of antibiotic therapy of tuberculous meningitis is an inflammatory reaction with irritation of the diencephalohypophysial segment due to the contact of the nervous tissues with toxins of tubercle bacilli in the exudates of meningoencephalitis. The reaction elicits a response of the corticoadrenal system that results in the abnormal growth of hair.

Irish Journal of Medical Science, Dublin

6:257-288 (July) 1953

Hydramnios: Survey of 100 Cases. A. P. Barry.—p. 257.
Isoniazid in Treatment of Pulmonary Tuberculosis. B. O'Brien.—p. 265.
In Vitro and In Vivo Activity of Isoniazid on M. Tuberculosis. M. L. Conalty.—p. 267.
Radiological Determination of Placental Site. S. J. Boland.—p. 274.
Cardiac Arrest. B. G. B. Lucas.—p. 280.
Subarachnoid Haemorrhage During Cortisone Therapy. M. Hickey, J. B. Coakley, M. I. Drury and H. Moore.—p. 284.

Journal of Bone and Joint Surgery, London

35-B:169-338 (May) 1953. Partial Index

*Role of Sympathectomy in Treatment of Causalgia. R. Barnes.—p. 172.
Posterior Intervertebral Fusion of Lumbar Spine: Preliminary Report of New Operation. A. James and N. W. Nisbet.—p. 181.
Treatment of Subcapital Fractures of Neck of Femur with Nail-Plate and Wedge Osteotomy. J. C. McNeur.—p. 188.
Sign of Sciatic Nerve Root Pressure. R. H. Cram.—p. 192.
Uncommon Complication of Slipping of Upper Femoral Epiphysis. F. T. Wheeldon.—p. 196.
Reconsideration of Cup Arthroplasty of Hip with Precise Method of Concentric Arthroplasty. J. C. Adams.—p. 199.
*Synovectomy and Curettage in Treatment of Tuberculosis of Joints. M. C. Wilkinson.—p. 209.
Calcifying Enchondroma of Long Bones. W. Laurence and E. L. Franklin. —p. 224.
Leontiasis Ossea: Critical Review, with Reports of Four Original Cases. J. Evans.—p. 229.
Myositis Ossificans Progressiva. K. S. Grewal and N. Das.—p. 244.
Trumble Graft: Review of 36 Cases. B. Stratford.—p. 247.
Os Paracuneiforme: Some Observations on an Example Removed at Operation. A. B. Morrison.—p. 254.
Intermetacarpal Fusion. I. S. Smillie.—p. 256.
Use of Wire Rings for Fixation of Spinal Grafts. G. K. McKee.—p 258.
Neurofibroma Eroding Carpus: Report of Case. T. B. Whiston.—p. 260.
Bilateral Glenoid Hypoplasia: Report of Five Cases. R. Owen.—p. 262.
Xanthogranulomatous Disease of Bone with Polyarthritis: Report of Two Cases. G. N. Golden and H. G. H. Richards.—p. 275.

Sympathectomy in Causalgia.—Causalgia in 48 patients treated in various peripheral nerve injury centers in Great Britain resulted in all cases from an incomplete lesion of one or more nerve trunks. The pain usually had a burning quality, was situated in the hand or foot, and was aggravated by physical and emotional stimuli. Trophic and vascular changes, though variable, were a striking feature of the condition. Pain usually began within a few hours after the occurrence of the wound and often increased slowly in severity over the first few days. Slow but steady improvement was sometimes noted after a period varying from a few months to a year or more, although for several years many patients still complained of twinges of pain when they were excited or during hot weather. Multiple nerve injuries were common, and the pain was often associated with more than one nerve. All the injuries were caused by bomb or shell splinters or high velocity missiles, and in all but two cases they were at or above the level of the knee or elbow. The clinical features of causalgia and its satisfactory response to sympathectomy can be explained by the establishment of an artificial synapse between the efferent sympathetic and the afferent sensory fibers as a result of the nerve injury. Pain arising from the disturbance in conduction will persist until effective insulation of the nerve fibers is restored or the efferent impulses in the sympathetic fibers are abolished by sympathectomy. Pain in the upper limb was always associated with an incomplete lesion of the lower trunk or medial cord of the brachial plexus or of the median nerve; when the lower limb was affected, there was an incomplete lesion of the medial popliteal division of the sciatic, the medial popliteal, or the posterior tibial nerve. These nerves carry most of the sympathetic fibers to the hand or foot. Prompt treatment by sympathectomy (preferably preganglionic), which gives marked relief in most cases, is essential to prevent the crippling deformities consequent to prolonged voluntary immobilization of the painful limb.

Synovectomy and Curettage in Tuberculosis of Joints.—The main object of operations on tuberculous bones or joints is to heal the local lesion. The tuberculous infection falls most heavily on parts of the joint where there are reticuloendothelial cells capable of trapping the tubercle bacilli: these reticuloendothelial cells are found at the ends of long bones and in synovial membranes. Free vascular communication also exists between the synovial membrane, capsule, and epiphyses so that there is usually concomitant infection of the synovial membrane and the ends of the long bones. Removal of synovial membrane is followed by rapid regeneration; consequently, partial synovectomy accompanied by antibiotic treatment affords an opportunity for fresh and healthy synovial tissue to be developed, along with fresh blood vessels that will bring the antibiotic into the diseased area. Partial synovectomy, partial capsulectomy, and curettage of necrotic foci in the bone when present, combined with careful constitutional treatment in an open-air country hospital, gave successful results in 53 of a series of 62 patients with tuberculous disease of the spine, hip, or knee. Unstable ankylosis, often noted in tuberculosis of the spine, is most frequent when the disease is in the mid and lower thoracic regions. It is often followed by deformity, reactivation of the disease, and paraplegia, especially when perispinal abscesses or granulomas are present. The combined constitutional, antibiotic, and operative treatment was helpful in securing stable ankylosis without postoperative vertebral destruction in patients presenting these features. Restoration of good function with preservation of the joint can usually be secured in patients with involvement of the hip or knee if the treatment is started in time.

35-B:339-516 (Aug.) 1953

*Late Results of Treatment of Congenital Dislocation of Hip. G. M Muller and H. J. Seddon.—p. 342.
Open Reduction in Congenital Dislocation of Hip. E. W. Somerville —p. 363.
Frame Reduction in Congenital Dislocation of Hip. J. C. Scott.—p. 372.
Primary Fusion of Posterior Subtalar Joint in Treatment of Fractures of Calcaneum. I. L. Dick.—p. 375.
Supracondylar-Y Fractures of Humerus. E. M. Evans.—p. 381.
Remodelling of Humerus After Supracondylar Fractures in Childhood. C. G. Attenborough.—p. 386.
Posterior Peripheral Detachment of Lateral Cartilage. E. A. Jack. —p. 396.
*Case of Progressive Joint Disorders Caused by Insensitivity to Pain. J. G. Petrie.—p. 399.
Note on Nerve Endings in Subject with Arthropathy and Congenital Absence of Pain. W. Feindel.—p. 402.
Arthropathy of Ankle in Congenital Indifference to Pain. G. K. Rose. —p. 408.
Familial Hyperplastic Callus Formation: Case Followed for 20 Years G. Hilton.—p. 411.
Hyperplastic Callus Formation in Osteogenesis Imperfecta: Report of Case and Review of Literature. E. H. Strach.—p. 417.
Calcinosis: Report of Two Cases. A. de Sousa and J. P. Chaves.—p. 423.
Case of Infantile Cortical Hyperostosis Affecting Only Clavicle and Scapula. J. Walley.—p. 426.
Displacement of Upper Femoral Epiphysis in Man of 26 Years Suffering from Simmond's Disease Following Head Injury. R. Farrow.—p. 432.
Primary Asymptomatic Calcification of Articular Cartilage: Report of Case. D. A. W. Edwards and S. Davis.—p. 434.

Late Results of Treatment of Congenital Dislocation of Hip.—Of 889 patients with congenital dislocation of the hip treated within the first half of the century, 264 could be traced and the present state be assessed. Of the 264 patients, 155 had been treated by closed reduction; 108 of these had unilateral and 47 had bilateral dislocations. In no less than four-fifths of the patients with one hip treated by closed reduction before the age of 3 and in two-thirds of those with both hips treated, the results were satisfatcory. In patients between the ages of 3 and 7 years the unilateral cases still gave almost equally good results, but there was a rapid falling off in the ratio of successes in the bilateral cases. Nine hips were treated in six patients by immediate open reduction and the results were only moderate. Secondary operative procedures following manipulative reduction and plaster fixation were employed in 23 patients with 26 dislocated hips, and satisfactory results were obtained in 11 hips. The shelf operation was the most satisfactory procedure, especially when performed within two years from the initiation of the treatment. There were 38 patients in whom deterioration occurred some considerable time after closed reduction, the average interval between the initial treatment and the operation designed to relieve the disability being about 12 years. The effectiveness of these interventions as a whole was not remarkable; the secondary operation gave satisfaction in a little more than one-third of the cases. No reduction was attempted on account of advanced age in 15 patients, and late operation was worth the attempt in only 7. Of 27 patients with completely neglected dislocation who had not received any kind of treatment, 15 in whom function was good were able to lead a moderately active life. Results of the various operations employed were as follows: Of 20 open reductions only 4 were satisfactory; the shelf operation gave encouraging results in about two-thirds of the 36 hips so treated and the operation was effective in some children aged over 5. The notion must be abandoned that this is the upper age limit. Only four of nine rotation osteotomies were effective. Anteversion of the femoral neck as a cause of instability of the reduced hip is by no means negligible. The effective life of the successfully treated hip is the most important consideration. A good result is likely to last until some time between the 25th and 30th years. The survivors continued in fair comfort into middle life. Osteoarthritis occurred in half of the cases, but disability was limited to rather more than half of this number. Pain was a significant complaint in rather more than one-third of all patients reexamined, but sometimes occurred in the absence of a degenerative arthritis.

Progressive Joint Disorders Caused by Insensitivity to Pain.—Changes identical with those of Charcot's joints (neurogenic arthropathy) in the knee, hip and spine occurred in a 27-year-old woman who had shown from birth a consistent lack of appreciation of pain. Except for loss of pain sensation she had no other defect in her nervous functions until the spinal lesion itself produced a paraplegia. It seems probable that the changes in the patient's joints were due solely to the lack of protection usually given by the sensation of pain, though some recent authors have ignored loss of pain sensation as an important factor in the cause of neuropathic joint disease.

Journal of Laryngology and Otology, London

67:437-496 (Aug.) 1953

Surgery of Temporal Bone. T. Cawthorne.—p. 437.
Some Aspects of Temperature, Moisture and Heat Relationships in Upper Respiratory Tract. P. Cole.—p. 449.
Management of Soft Tissues in Mastoidectomy. P. Reading.—p. 457.
Biochemistry of Endolymph, Perilymph and Cerebrospinal Fluid. E. C. Dodds.—p. 466.
So-Called Primary Cholesteatoma of External Auditory Meatus. J. J. Biber.—p. 474.

Journal of Mental Science, London

99:357-634 (July) 1953. Partial Index

Physiological Basis of Carbon Dioxide Therapy of Psychoneuroses. E. Gellhorn.—p. 357.
Clinical Evaluation of Effect of Mephenesin on Anxiety. J. A. Ewing and J. H. Mendenhall.—p. 464.
Left-Handedness and Stuttering as Signs Diagnostic of Epileptics. B. J. Bolin.—p. 483.
Asthma and Psychosis. D. Leigh and J. W. Lovett Doust.—p. 489.
*Psychological Concomitants of Cortisone and ACTH Therapy. L. Rees.—p. 497.
Psychosomatic Aspects of Vagotomy. L. Rees.—p. 505.
Korsakov Syndrome in Spontaneous Subarachnoid Haemorrhage. J. N. Walton.—p. 521.
The Backward Baby. B. H. Kirman.—p. 531.
Mongolism in One of Twins. J. V. Morris and R. C. MacGillivray.—p. 557.
Girl of Mongoloid Appearance and Normal Intelligence. W. H. P. Cant, J. W. Gerrard and B. W. Richards.—p. 560.
Effects of Temporal Lobe Lesions on Behaviour in Paranoid States. A. J. Oldham.—p. 580.

Psychological Concomitants of Cortisone and Corticotropin Therapy.—Rees studied the psychological changes in 40 patients receiving 50 courses of treatment with corticotropin or cortisone. Disorders found in these patients included asthma, bronchitis, arthritis, Simmond's disease, anorexia nervosa, depressive states, schizophrenia, Addison's disease, angioneurotic edema, Felty's syndrome, and anaphylactoid purpura. Each patient was observed by a team consisting of a physician, an allergist, a pediatrician, a pathologist, and a psychiatrist. The following tests were carried out: weight, water balance, eosinophil counts, blood electrolytes, electrocardiographs, daily blood pressure readings. A psychiatric history and clinical assessment was carried out. Ratings of behavior, mood, tension, awareness, and sociability were made before, during, and after treatment. During the first week, the patient was given injections of isotonic sodium chloride solution; all tests and clinical assessments were carried out during that week. No significant changes occurred during the period of inert injections; this indicates that the possible suggestive effect of the procedure was not important. No significant changes in mental state occurred in 21 of the patients, but in 19 changes varied from an increased feeling of well-being to marked restlessness, excitement, and irritability. In one-third of the patients showing increased well-being or euphoria, the change was attributable to relief of disability or symptoms. In the remaining two-thirds, increased well-being or euphoria developed before or independently of any relief of symptoms. In the early stages of treatment, elation and euphoria free from undesirable tension was found. If large doses or prolonged treatment was necessary, increased irritability and restlessness tended to develop. In some patients, particularly in those with asthma or rheumatoid arthritis, euphoria was less in second or subsequent courses of treatment. A slight improvement in well-being and appetite occurred in some patients with involutional or senile depressive states while they were treated with corticotropin, but there was no significant improvement in the depression. All patients subsequently recovered with electroconvulsive therapy. This suggests that the beneficial therapeutic effects of electroconvulsive therapy are not dependent on stimulating an increased endogenous release of corticotropin. The author believes that the absence of severe psychiatric reactions is due to the fact that the regimen employed prevented deviation in the patient's internal environment, particularly disturbances in the water and electrolyte balance. This is achieved by low salt diet, high potassium intake, and adjustment of drug dosages.

Journal of Physiology, Cambridge

121:225-432 (Aug.) 1953. Partial Index

Individual Variations in Metabolic Cost of Standardized Exercises: Effects of Food, Age, Sex and Race. K. Mahadeva, R. Passmore and B. Woolf.—p. 225.
Active Absorption of Amino-Acids by Intestine. W. T. Agar, F. J. R. Hird and G. S. Sidhu.—p. 255.
Conduction Velocities of Respiratory and Cardiovascular Afferent Fibres in Vagus Nerve. A. S. Paintal.—p. 341.
Optic Nerve, Properties of Central Tract. P. O. Bishop, D. Jeremy and J. W. Lance.—p. 415.

Lancet, London

2:305-352 (Aug. 15) 1953

*Natural History of Lupus Erythematosus and Its Modification by Cortisone and Corticotropin (A.C.T.H.). H. Cohen and E. F. B. Cadman.—p. 305.
Haemoglobin and Red Cells in Human Foetus and Their Relation to Oxygen Content of Blood in Vessels of Umbilical Cord. J. Walker and E. P. N. Turnbull.—p. 312.
Results of Thoracoplasty: Follow-Up of 583 Patients. R. Laird.—p. 319.
Cardiac Manifestations of Poliomyelitis. M. J. Fox, L. Sennett and J. F. Kuzma.—p. 323.
Infection with Pasteurella Septica in Child Aged Three Weeks. N. C. D. Pizey.—p. 324.
Bovine Plasma Processed for Transfusion: Antigenicity of "Plasma Heterologo" in Rabbit. J. J. Hoet, L. S. Mynors, R. R. A. Coombs and W. d'A. Maycock.—p. 326.
Penetrating Heart Wound: Value of Intra-Arterial Transfusion. R. R. L. Pryer.—p. 327.

Lupus Erythematosus and Cortisone and Corticotropin.—Cortisone and corticotropin prolong the course of lupus erythematosus and thereby convert acute cases (those causing death within three months after the onset of systemic symptoms) and subacute cases (in which death occurs within one year) into chronic conditions. There is increasing evidence to show that the chronic discoid and systemic varieties of lupus erythematosus are closely related. Chronic discoid lupus erythematosus, which is not accompanied by constitutional disturbances, may be described as localized, if confined to the face and ears, or generalized, if it also involves the trunk and limbs. Systemic lupus erythematosus—acute, subacute, or chronic—is characterized by widespread collagen tissue damage, which affects particularly the vascular system and the serous and synovial membranes. Systemic lupus erythematosus may develop in patients with chronic discoid lesions, but the incidence of transition is low. Excessive exposure to natural or artificial sunlight and, possibly, previous treatment with the sulfonamides are the only factors said to produce the change to systemic involvement, which cannot be predicted. The reverse transformation of systemic to chronic discoid disease may also occur spontaneously. The unpredictable remissions characteristic of lupus erythematosus make accurate prognosis and the evaluation of therapy difficult. The more acute the systemic disease, the shorter, as a rule, is the life expectancy and the less likely are remissions. Cortisone and corticotropin were used by the authors in treating 16 patients, 7 of whom had frank systemic involvement. The initial treatment consisted of 25 mg. of corticotropin given intramuscularly at six hour intervals or 25 mg. of cortisone given orally four times a day. The patients were given a low salt, high potassium diet, with additional potassium chloride orally. The doses of corticotropin or cortisone were reduced at intervals of from five to seven days provided good progress was being maintained. No deaths have occurred, and all but one of the patients are being maintained on cortisone given orally in divided doses of from 37.5 to 75 mg. daily. The other patient, whose response to therapy has been excellent although she was acutely ill, receives a weekly maintenance dose of 10. I. U. of corticotropin gel. Results were best in the four patients with the most active systemic disease; all felt better within a few hours after treatment was started. No severe complications were caused by the hormone therapy in these patients, and the gratifying response secured indicates that the use of corticotropin or cortisone is fully justified in all but very mild cases of lupus erythematosus.

2:353-408 (Aug. 22) 1953

*Pain in Chronic Gastric Ulcer: Basic Anatomy and Mechanism. V. J. Kinsella.—p. 353.
Management of Breech Presentation. J. Mair.—p. 361.
External Cephalic Version. M. R. Fell.—p. 364.
Some Effects of Extracts of Thymus Glands Removed from Patients with Myasthenia Gravis. A. Wilson, A. R. Obrist and H. Wilson.—p. 368.
Muscular Dystrophy Associated with Paroxysmal Myoglobinuria and Excessive Excretion of Ketosteroids. D. Acheson and D. McAlpine. —p. 372.
Procaine Penicillin with Aluminum Monostearate: Infrequent Injections for Children. S. A. Doxiadis and K. S. Holt.—p. 376.
Psittacosis: Two Further Human Cases. A. P. C. Bacon.—p. 376.
Pilonidal Sinus in an Above-Knee Amputation Stump. J. H. Shoesmith. —p. 378.

Pain in Chronic Gastric Ulcer.—Gastric ulcers removed from 22 patients by partial gastrectomy were studied macroscopically, and 650 histological sections were examined microscopically. Results revealed that the nerves in chronic gastric ulcer form two main groups, those of the ulcer edge and those of the gap. The nerves of the edge are the divided ends of the submucous and myogastric plexuses. They are the only constant group. They are enclosed within fused anatomic layers and are usually covered by the thickened mucosa and submucosa. They are end-bulbs, akin to those observed in an amputation stump. The nerves of the gap are absent when the ulcer is on the anterior or posterior wall and penetration is complete. They are the nerves of the mesentery when the ulcer is on the lesser curvature and penetration is complete. They are embedded not in anatomic layers but in the layers of Askanazy. Their destruction is gradual (unlike the end-bulbs of the edge) and completed in the granulation layer. They are separated from the gastric contents by the three inner layers of Askanazy and by the blood circulating in the granulation tissue. These layers are impermeable to gastric acid and insensitive to caustics, including hydrochloric acid. The question of which causes pain, the floor or the edge of ulcer, that is between acid and inflammation, is decided by microscopic study. There are no nerves in the floor of som painful ulcers but always many in the edge. The part fro which pain arises is "the visible palpable lesion" (the ulc itself in its full thickness) rather than the diffusely inflam mucosa. Seasonal variations in pain and pain exacerbatio before hemorrhage or perforation are due to acute exacerb tions of the chronic inflammation. Pain fluctuations during t day are brought about by hemodynamic factors, alteratio in volume, pressure, and velocity of blood flow in the painf tissue. Meat fibers may remain undigested for days in t floor of a gastric ulcer. Motor activity, including spasm, not the primary cause of ulcer pain, but, if excessive, it m cause pain secondarily by squeezing tender tissue. Acid is n the primary cause of ulcer pain, but if strong enough m cause the stomach to squeeze tender tissue. In logical orde inflammation is then the primary, the motor disturbance t secondary, and the acid the tertiary cause of ulcer pain. T author considers the hypothesis that acid acting on ner endings in the floor of the ulcer is the primary cause of ulc pain as unscientific in that it ignores gastric pain with achlo hydria and with hypochlorhydria, the deep penetrating ulcer antrum gastritis, the exacerbation of pain before hemorrha and perforation and seasonable variations in pain. Many p tients with "ulcer pain" have no nerves in the ulcer floo some have no acid, and some even have no ulcer. The ac hypothesis contradicts the essential unity of the pain mech nism.

2:409-460 (Aug. 29) 1953

Anxiety States in General Practice. R. F. Tredgold.—p. 409.
First Postoperative Days: Study of Pre-Ileus Following Gastrecto D. Ebrill and L. Naftalin.—p. 411.
*Myasthenia Gravis and Pregnancy. D. Fraser and J. W. A. Turn —p. 417.
*Effect of Streptomycin and Isoniazid on Miliary Tuberculosis and T berculous Meningitis. G. M. Ritchie, R. M. Taylor and J. C. Dic —p. 419.
Effect of Corticotrophin in Idiopathic Steatorrhoea. W. T. Cook —p. 425.
Amino-Aciduria in Rachitic Children. J. H. P. Jonxis and T. H. Huisman.—p. 428.
Management of Exomphalos. R. W. Smithells.—p. 431.
Contact Test: Method of Measuring Spermicidal Action. H. A. Davids —p. 432.

Myasthenia Gravis and Pregnancy.—The course of the disea during pregnancy in 14 women with myasthenia gravis i whom pregnancy had occurred after they first had myastheni symptoms was as follows: Two experienced no change i myasthenia, and one was slightly improved in the last fi months. Myasthenia progressed in four, remissions occurre in two, four patients were symptomless at onset and throug out pregnancy, and one patient, who had two pregnancie had a complete remission after deep x-ray therapy at the thir month of the first pregnancy and a relapse in the secon month of the second pregnancy, with myasthenic symptom becoming gradually worse throughout the pregnancy. Six wer delivered at the hospital. Apart from myasthenia, labors wer relatively normal and the contrast between efficient uterin contractions and general muscular weakness was pronounced The postpartum course of the 14 patients was as follows: O four patients who had been symptomless during pregnancy two had postpartum relapse and two had not. Five who ha symptoms during pregnancy had postpartum exacerbation three had gradual deterioration postpartum, and two were no changed. Of seven infants (including a pair of twins) born i the hospital and carefully examined for evidence of myastheni gravis, six were normal, but one showed definite evidence o myasthenia. It is concluded that myasthenic patients can go through pregnancy without difficulty, though there is some danger of a relapse necessitating increased doses of neostigmine during the first three months. There is no medical indication for termination of pregnancy. A normal labor ca be expected, other circumstances being normal. The greatest danger is a relapse in the postpartum period, especially during the first three weeks. For this reason it is advisable for labor to be conducted in the hospital and for the patient to be kept in hospital for three to four weeks after labor. There is a possibility that the infant will show myasthenic symptoms, most notably in the bulbar and facial muscles. This neonatal myasthenia responds to neostigmine and is likely to subside completely in two to three weeks.

Streptomycin and Isoniazid in Miliary Tuberculosis and Tuberculous Meningitis.—The postmortem findings in six patients with both miliary tuberculosis and tuberculous meningitis treated with streptomycin and isoniazid were compared with those in 48 patients with either or both of these conditions, who had not received specific chemotherapy or had been given streptomycin alone or streptomycin combined with *p*-aminosalicylic acid. Results showed that in small recent tuberculous lesions, streptomycin alone caused regression but not resolution to occur. Resolution took place after treatment with streptomycin combined with isoniazid. In larger and older lesions, after streptomycin therapy, there was regressive fibrosis. When isoniazid was also administered, there was greatly increased vascularity, absorption of caseation, diminution of epithelioid cells, and loosening of old fibrous tissue, i. e., changes towards resolution. These changes occurred even in old, densely fibrosed lesions, which were not affected by streptomycin alone. It is suggested that the difference in the effects of these drugs is due to the greater diffusibility of isoniazid and possibly to its more rapid action on tubercle bacilli. It is noted that the advantages of isoniazid are not lost by combining it with streptomycin; combined use of these two drugs is the best available means of preventing the development of resistance to either drug by the infecting organism. The miliary lesions were in no way responsible for the death in the six patients treated with streptomycin and isoniazid; on the contrary the miliary lesions were all resolving satisfactorily. It has also been reported by other workers that isoniazid prevented the development of tuberculous meningitis as a complication. In the six patients the infection had been controlled not only in the miliary, but also in the meningeal lesions in which again changes indicated partial resolution. In four patients these changes were followed by cerebral softening or convulsions due to swelling of tuberculomas. These harmful effects, for which isoniazid was partly responsible, must be considered in relation to the benefits resulting from the more thorough control of the infection. Larger clinical series will be required to assess the value of isoniazid in this condition.

Medical Journal of Australia, Sydney

2:1-40 (July 4) 1953. Partial Index

*Note on Leprosy as Aetiological Factor in Weber-Christian Syndrome. J. H. W. Birrell.—p. 7.
Human Engineering: New Technology. J. C. Lane.—p. 7.
Sigmoidoscopy. E. S. R. Hughes and J. B. Turner.—p. 10.
Stability of Urinary Diastase. F. G. Bell and J. B. Paton.—p. 15.
Aetiology and Modern Treatment of Acne Vulgaris. J. C. Belisario. —p. 15.

Leprosy as an Etiological Factor in the Weber-Christian Syndrome.—The Weber-Christian syndrome, or relapsing febrile nonsuppurative nodular panniculitis, is a condition characterized by recurrent fever associated with the formation of single to multiple crops of tender or painless inflammatory nodules in the panniculus adiposus. Birrell says that in 1952 he observed and reported the case of a 37-year-old man of Maltese origin who had lived in Australia for two years and who presented the typical symptoms of the Weber-Christian syndrome. Shortly after the publication of this case another person from Malta was seen at the Alfred Hospital, Melbourne; there was a similar clinical and histological picture. Leprosy was suggested in this second case, and Ziehl-Neelsen staining was carried out on biopsy material from one of the nodules. The finding of organisms typical of Mycobacterium leprae in this second case immediately led to a reexamination of the biopsy material from the first case and to the discovery of similar organisms in it. Birrell feels that these observations imply that the Weber-Christian syndrome is only a syndrome and not a specific disease and that leprosy may well be one of the etiological agents. A proportion of cases of the Weber-Christian syndrome may actually be cases of leprosy in a relatively early stage.

Minerva Medica, Turin

44:1503-1530 (June 6) 1950

*History of Human Antituberculous Vaccination with Killed Bacilli in Last 50 Years. G. De Toni.—p. 1503.
Study of Iron Metabolism in Hemochromatosis. O. Bongini and F. Sicuteri.—p. 1512.
Parasitic Pseudotumors: Four Cases of Autochthonous Nematodiasis Caused by Filaria-Like Parasite. G. Rossi and M. Genesi.—p. 1517.

Antituberculous Vaccination in Italy.—Antituberculous vaccination with killed bacilli and results obtained with it in Italy during the last 50 years are reviewed. In 1903 Maragliano asserted that a vaccine of bacilli killed by heat had an antigen property and could induce immunity against tuberculosis. The allergy to tuberculin was, however, weak and short-lasting. A vaccine of bacilli killed by ultraviolet rays yielded better results. But the best results were obtained 25 years ago by Petragnani with a vaccine of tubercle bacilli killed by formaldehyde and stabilized through a process that reduced their virulence but preserved their morphological and chemical characteristics. Petragnani's was a great contribution to the problem of antituberculous vaccination. But he should not have called this vaccine "anatuberculin" because for a long time, especially in countries other than Italy, "Petragnani's anatuberculin" was thought to be a particular type of tuberculin. Had he used the term "tuberculous formaldehyde vaccine," many misunderstandings would have been avoided and his contribution would have been appreciated earlier. In Italy, however, vaccination with Petragnani's anatuberculin has been carried out on a wide scale. Most of the work in this field has been done by Salvioli, who after many experiments introduced the method of injecting the vaccine intradermally by four simultaneous injections arranged quadrilaterally on the forearm. A constant and long-lasting allergy to tuberculin was obtained and the mortality for tuberculosis was decreased among the vaccinated persons. The clinical tuberculous manifestations were also less severe in children in whom tuberculosis developed after they had been vaccinated. But an intense local reaction to the vaccination with formation of cold abscesses and permanent conspicuous scars after healing were pronounced side-effects. Multiple puncture vaccination was then introduced in an attempt to minimize the local reaction. It gave good results in persons older than six years but failed in infants. Vaccination with killed BCG bacilli was also attempted in the meantime, but the allergic state obtained was inferior to that produced by living BCG bacilli. Therefore studies were resumed on Petragnani's anatuberculin. In 1950 Salvioli combined anatuberculin with hyaluronidase. The enzyme potentiated the activity of the killed bacilli. The allergy became manifest two to three months after the vaccination. It was present in 95% after one year, and it became more pronounced as time passed. Local reactions were less severe, possibly because the bacilli were mobilized by the enzyme and produced granulomas of the tuberculous type in the satellite lymph nodes. Results with "Salvioli's diffusing vaccine" are promising, but studies are still in progress and a definitive evaluation of its effects is premature.

Münchener medizinische Wochenschrift, Munich

95:789-812 (July 17) 1953. Partial Index

*Results of Surgical Treatment in 55 Cases of Mitral Stenosis. O. Bayer, E. Boden and E. Derra.—p. 789.
Effect of Penicillin on Vitamin A Content of Serum as Well as on Night Vision. H. Haubold, W. Loew and E. Kolb.—p. 792.
Use of Ultraviolet Light for Sterilization of Air. H. O. Hettche.—p. 798.

95:813-836 (July 24) 1953. Partial Index

Clinical Pathology of Cardiac Metabolism Under Neurohormonal Influence. W. Raab.—p. 813.
*Results of Surgical Treatment in 55 Cases with Mitral Stenosis. O. Bayer, E. Boden and E. Derra.—p. 817.
Reducing Inflammation by Increasing the Peripheral Circulation. N. Ludwigs.—p. 822.

Results of Surgical Treatment in 55 Cases of Mitral Stenosis.—Bayer and associates review the results they obtained in the surgical treatment of 55 patients with mitral stenosis. The majority of the patients were in the fourth decade, and

41 were women. The majority of the patients belonged to groups 3 and 4 according to Baker's classification. There were eight fatalities, including one late one (after six months) resulting from cerebral embolism. Of the surviving patients, 3 experienced no improvement, 5 were slightly improved, 18 obtained good results, and 21 had very good results. Comparing their own results with those obtained by other surgeons, Bayer and associates find that on the whole their own results are about the same as those of other authors, although with increasing experience Bailey and associates have reduced the mortality rate to 5%. Experiences in their last 27 patients make Bayer and his collaborators hope that they too will eventually equal this low mortality rate. The surgical results are in general more favorable in cases of pure mitral stenosis without calcification than in cases in which the stenosis is complicated by mitral insufficiency and severe valvular calcification. In cases in which mitral regurgitation is considerable, correction of this defect will have to be added to the commissurotomy. In the presence of severe valvular calcification, the motility of the valvular edges, even after commissurotomy, is so slight that mitral insufficiency appears or becomes intensified. Catheterization of the right side of the heart, which permits exact determination of the pressure conditions in the pulmonary circulation in the right side of the heart and measurement of the minute volume doubtlessly is the best method for estimating the result of the operation; however, the authors feel that the decrease in pressure in the left auricle during operation, the postoperative determination of arterial oxygen saturation, and the examination of pulmonary function during rest and after measured physical exertion will also be helpful. The efficacy of mitral commissurotomy is further corroborated by changes in clinical, roentgenologic, and electrocardiographic aspects as well as in the subjective condition of the patients.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

97:1741-1816 (July 4) 1953. **Partial Index**

Value of Methylene Blue During Chronic Exposure to Low Concentrations of Carbon Monoxide in the Air. J. F. de Wijn and W. F. Doath.—p. 1747.
Osteoporosis After Menopause. M. E. Kulsdom.—p. 1756.
*Wilms' Tumor. F. H. van Gulik.—p. 1763.
*Neurosyphilis. A. Verjaal.—p. 1767.

Wilms' Tumor.—Embryonal tumors of the kidneys are known under many different terms, but what is generally referred to as Wilms' tumor should really be referred to as embryonal carcinoma of the kidney. After commenting on various aspects of this tumor, particularly that it practically never occurs beyond the age of puberty, the author presents the case of a man, aged 51, who had such a tumor. The growth was removed; the operative specimen weighed nearly 10 kg. and measured 40 by 30 by 20 cm. A sac containing about 4 liters of fluid and necrotic debris surrounded the tumor, which alone weighed 5,400 gm. Histological examination revealed that it was an adenosarcoma. Several months after the operation the patient stated that he felt quite well.

Neurosyphilis.—During the last 10 years, Verjaal treated 10 patients with neurosyphilis in whom the cerebrospinal fluid showed noticeable pleocytosis, increased protein content, and a pathological colloid curve. The clinical pictures varied greatly in these patients. Half of the patients were treated with arsphenamine and bismuth and the others were treated with penicillin. The results obtained with arsphenamine and bismuth were discouraging, in that only 6 of 14 patients were cured. The results obtained with penicillin seemed more favorable. However, in some of these cases the follow-up period has not been long enough to permit conclusions. Two patients in whom treatment with arsphenamine and bismuth failed were later cured with penicillin. On the other hand, two who failed to respond to penicillin were successfully treated with arsphenamine and bismuth. No relapse or exacerbation was ever observed after the changes in the cerebrospinal fluid had completely disappeared.

Nordisk Medicin, Stockholm

50:1029-1062 (July 23) 1953

Vitamin B, Folic Acid and Citrovorum Factor. W. Nyberg.—p. 1029.
*Recent Therapy in Acute Leukemia in Children (Folic Acid Antagonists and ACTH/Cortisone). A. Kåss.—p. 1032.
Bone Marrow and Blood Picture in Cases of Splenomegaly. E. H Mårtensson, L. Jacobsson and H. A. Hansen.—p. 1036.
Pulmonary Changes in Paragonimiasis. M. Roelsgaard.—p. 1040.
Blood Transfusion in Infants and Young Children. H. Enell and R Kostmann.—p. 1042.
Purpura in Tuberculosis. J. Steffensen.—p. 1044.
Tropical Eosinophilia. G. Hertzberg.—p. 1046.

Recent Therapy in Acute Leukemia in Children (Folic Acid Antagonists and ACTH/Cortisone).—Nineteen children with acute leukemia, 13 boys and 6 girls, from 3 months to 1 years of age, have been treated at the Bergen Children's Clinic since it opened two and a half years ago. All received antibiotics and all but one, who was in forlorn condition on admission, were given repeated blood transfusions. The duration of survival after establishment of the first symptoms, Kåss reports, was about three and a half months for the eight patients not given aminopterin. It was six and a half months for the 11 who received aminopterin, nine of whom also received corticotropin and some also cortisone. After nineteen courses of treatment with aminopterin, complete remission for two and a half and three months respectively resulted in two cases. After combined aminopterin-corticotropin treatment in two patients, partial remission for three weeks followed in one instance. Thirteen courses of corticotropin and two of cortisone in eight patients resulted in three complete remissions for from three to six weeks and seven partial remissions for up to two months.

Pediatria, Naples

61:313-487 (May-June) 1953

Thalassanemia Minima. I. Gatto and L. Valentino.—p. 313.
Contribution to Knowledge of New Hemorrhagic Disease Analogous to Hemophilia (Deficiency of Plasma Thromboplastin Component). M Amato and A. Camera.—p. 336.
*Study of Mechanism of Action of Sodium Salicylate in Antirheumatic Therapy. U. Pellegrini and I. Sala.—p. 351.
Aspects of Tuberculous Pathology in First Three Years of Life in Relationship to Mode of Infection: Case Reports with Known Source of Infection. G. Crocco and M. Saggese.—p. 359.
Recessive Dystrophic Epidermolysis Bullosa. C. Imperato.—p. 389.
Tuberculous Allergometry and Erythrocyte Sedimentation Rate: Disturbing Effects of Two Contemporary Intradermal Inoculations on Allergometric Values. G. Vallarino and M. Cajati.—p. 425.

Sodium Salicylate in Children.—A group of children between the ages of 5 to 9 years were given antirheumatic therapy consisting of one intravenous injection of 1.2 gm. of sodium salicylate in a 30% solution of distilled water (4 cc.). For a second group of children of the same ages, the therapy consisted of oral administration of 0.20 gm. of sodium salicylate and 0.20 gm. of sodium bicarbonate per kilogram of body weight in 24 hours. The drugs were given in divided doses every three hours, and the therapy was continued for four days. The peripheral eosinophilia and the urinary excretion of 17-ketosteroids and 11-oxycorticosteroids were studied in all the children before and after the therapy. The number of peripheral circulating eosinophils dropped in both groups of children, and there was a constant and pronounced increase of the urinary excretion of 17-ketosteroids. The 11-oxycorticosteroid excretion was also increased. This suggests that the drug stimulated the function of the adrenal cortex and affected all the zones of the cortex. The excretion of metabolites of the androgen hormones was more pronounced in these children than in adult men during salicylate therapy. This may be ascribed to the fact that the 17-ketosteroids in the child come almost exclusively from the cortex of the adrenal gland rather than from the testicles, as in adult men. This drug, like cortisone, enhances protein catabolism and increases the uric acid excretion. It also increases the amount of interstitial fluid and subsequently the plasma volume. Pain and swelling of the joints disappear, and the erythrocyte sedimentation rate returns to normal. Salicylate therapy also exerts its action on the central nervous system (antipyretic and analgesic) and on the blood coagulation mechanism (prothrombin time).

Practitioner, London

171:117-228 (Aug.) 1953. Partial Index

Muscle Relaxants. A. D. Marston.—p. 121.
Emergency Anaesthesia. W. D. Wylie.—p. 129.
Anaesthetic Emergencies. R. Woolmer.—p. 136.
Local Anesthesia. W. W. Mushin.—p. 144.
Chemicals in Foodstuffs. M. Pyke.—p. 166.
Medical Curriculum as Training for General Practice. R. M. McGregor. —p. 173.

Presse Médicale, Paris

61:1019-1938 (July 18) 1953. Partial Index

Steroid Balance and Testosterone Metabolism in Cirrhosis. J. Warter, J. Schwartz and J.-P. Weill.—p. 1019.
*Possibilities and Limitations of Extemporaneous Cytodiagnosis. (Comment on 1,000 Cytological and Histological Comparisons). G. Castelain and C. Castelain.—p. 1020.

Extemporaneous Cytodiagnosis.—The results obtained by cytological study of tumor smears and impressions in 1,000 cases were compared with those obtained by histological study in the same cases. Scarcity or lack of nucleated elements prevented interpretation of the smears in 10 cases, while in 3 others there was disagreement between the results. Two of these showed evidences of malignant characteristics in the smears but not in the histological specimens. Careful observation and trained judgment are essential to correct evaluation of cell characteristics; although isolated neoplastic cells are sometimes obviously abnormal, they may at other times show very few structural irregularities. Smears and impressions can often be interpreted more easily, because of the number of cells shown and the ease with which they can be compared. Anisochromia and anisonucleosis can readily be seen even with weak magnification, and, when the magnification is increased, many of the nucleocytoplasmic disturbances characteristic of malignant cells become evident. Beginning metastases in lymph nodes may be highly localized; consequently, smears should be taken from the whole of the cut surface and even in some cases from several parallel sections. Both smears and impressions should be made in each case, because neoplastic tissue, which is often more coherent than the lymphoid and reticular tissue of the lymph node, is more difficult to detach and may be absent from the impression, appearing only in the smears. The appearance and density of the cells shown in smears and impressions taken from benign tumors of the breast differ largely from those found when the tumors are malignant. Not only the earliest structural deviations in tumor cells can be recognized by this method of cytological study, but their degree of malignancy may also be appraised to some extent, giving the method prognostic as well as diagnostic value.

Proceedings of Royal Society of Medicine, London

46:591-684 (Aug.) 1953. Partial Index

Later Results of Perforating Eye Injuries. M. Savory.—p. 596.
Amoebic Granuloma of Colon. I. Stewart.—p. 613.
Megacolon. R. H. Gardiner.—p. 616.
Congenital Rectal Stenosis. H. W. A. Baron.—p. 621.
Radical Excisions for Cancer of Transverse Colon and of Left Side of Colon. S. O. Aylett.—p. 624.
Treatment of Meningeal System by Means of Radioactive Colloidal Gold and X-Rays. C. L. Lewis.—p. 653.
Value of Radiology in Assessing Progress of Duodenal Ulceration Under Treatment. G. Simon and G. du Boulay.—p. 655.
Anorexia Nervosa: Study in Prognosis. D. W. K. Kay.—p. 669.

Schweizerische medizinische Wochenschrift, Basel

83:707-726 (Aug. 1) 1953

*Physiopathological Bases of Hypothermia and Possibilities of Combination of Hypotnermia and Extracorporeal Circulation. A. M. Dogliotti and E. Ciocatto.—p. 707.
Partial Nephrectomy in Renal Tuberculosis. G. Stähli.—p. 711.
Significance of Thrombocytes in Allergic Processes: II. Agglutination of Thrombocytes in Blood of Patients After Addition of Allergen. R. Hoigné and H. Storck.—p. 718.
Id.: III. Animal Experiments on Problem of Antibody Content of Thrombocytes. R. R. Hoigné, H. Frei and H. Storck.—p. 721.
Prophylaxis of Caries by Means of Fluoridation of Milk. E. Ziegler. —p. 723.

Physiopathological Bases of Hypothermia.—Induced hypothermia or refrigeration produced by physical means should be clearly differentiated from artificial hibernation produced by the use of drugs. The authors believe that massive and prolonged administration of the drugs contained in the mixtures employed to secure artificial hibernation may be injurious and that their effect cannot be adequately controlled; consequently, they present only the results of their studies on hypothermia produced by cold. The critical temperature below which life is impossible depends on factors such as the species of the animal exposed to the cold, the age, weight, and condition of the subject, the speed with which refrigeration takes place, and the marked individual variations in neurovegetative response to cold. Experiments with guinea pigs show that tolerance for hypothermia is better when the chilling and subsequent reheating are carried out quickly than when they are induced gradually. Functional paralysis of the neurovegetative system and suppression of consciousness are secured by administration of a ganglion-blocking agent (methonium salts) and an antihistamine. Blocking of the neurovegetative system makes it possible to induce refrigeration more quickly and with less danger because it lessens the body's resistance to cold. Rapid restoration of the temperature to normal may be facilitated by parenteral administration of cortisone or corticotropin in varying doses. Overdosage may be dangerous because it may result in adrenocortical inhibition and failure to respond to stimulation. Hypothermia induced by this method facilitates operations on the heart. Benefits obtained from its use in connection with the authors' artificial heart-lung apparatus for extracorporal circulation in dogs subjected to cardiac interventions were especially encouraging. Hypothermia induced by the authors' method was used in treating 33 patients with congenital malformations of the heart and great vessels and 16 patients requiring neurosurgical procedures. Results were good in 32 of the patients in the first group and in 14 of those in the second. Convincing evidence of the value of hypothermia in preventing injury to the nervous system as a result of reduced circulation was provided when circulation was restored without symptoms of cerebral damage after cardiac arrest of 10 minutes' duration in a child undergoing valvulotomy for congenital stenosis affecting the pulmonary artery.

83:727-750 (Aug. 8) 1953. Partial Index

Cation Exchange Resins in Treatment of Dropsy. A. F. Essellier, P. Jeanneret and H. Rosenmund.—p. 727.
*Serology of Toxoplasmosis. W. Roth.—p. 731.
Paralysis of Ischiadic and Peroneus Secondary to Traumatic Dislocation of Hip Joint and Dislocation of Hip Joint Associated with Fractures. E. Trojan.—p. 734.
Nonfermented Grape Juice: Question of Tolerance. K. Bucher, A. Mumenthaler and K. Weisser.—p. 735.
Shock and Loss of Blood in Surgery. R. A. C. Herron.—p. 739.

Serology of Toxoplasmosis.—Toxoplasma neutralization tests on rabbits, Sabin-Feldman's dye tests, and complement fixation tests were performed on a large number of serums from patients with established and suspected toxoplasmosis and serums from control persons. Results showed that the neutralization test on rabbits is too sensitive for the examination of serums from patients with suspected toxoplasmosis. A quantitative picture of the antibodies in the serum can be obtained by the Sabin-Feldman's dye test provided that in addition the complement fixation test is performed. Results from the dye test may be positive within a few days after the infection with Toxoplasma and titers may remain high for years, while results from the complement fixation test remain negative during the acute phase of the disease, turning to positive after several weeks and becoming negative again after several months. It is therefore advisable to repeat the tests after two to four weeks. Positive results from the repeated tests will be of particular diagnostic significance. The infection with Toxoplasma can be considered as established only if on repeated examination the high dye test titer is even higher or if the high dye test titer is unchanged but the result of the complement fixation test has turned from negative to positive. In any case, clinical manifestations and serologic findings should be interpreted simultaneously.

Semaine des Hôpitaux de Paris

29:2427-2492 (July 26-30) 1953. *Partial Index*

*Outline of a Kinetic Conception of Adrenocortical Insufficiency. P. A. Bastenie, V. Conard, N. Cordier and J. R. M. Franckson.—p. 2427.

Amyloidosis and Hypocortical Syndrome. Metabolic Study of Case. V. Conard, J. R. M. Franckson and G. Taymans.—p. 2435.

Hypoglycemia and Hypersensitivity to Insulin During and After Treatment with Cortisone. P. A. Bastenie and M. Verbiest.—p. 2438.

Treatment of Hypophyseal Myxedema. P. A. Bastenie.—p. 2454.

Kinetic Conception of Adrenocortical Insufficiency.—The adrenal cortical tissue may be almost completely destroyed in extreme cases of Addison's disease. The destruction of the tissue sometimes takes place rapidly; compensatory mechanisms cannot become operative, and the clinical course is fulminating, without any evident pigmentation. Transitional forms, on the other hand, may be characterized by zones of adenomatous hyperplasia appearing side by side with areas of cellular atrophy. Changes affecting the adrenal cortex apparently set in motion the normal regulatory mechanism of the adrenocortical tissue. This results in increased secretion of the corticotropic hormone. The hyperplasia produced by this hypophyseal reaction, of which one of the most obvious signs is pigmentation, compensates for the parenchymal deficiency, delaying the appearance of peripheral manifestations of adrenal insufficiency. Adrenocortical exhaustion ultimately occurs, however, and death ensues. Recognition of the numerous, more or less effectively compensated, transitional forms of adrenocortical insufficiency will make it possible to reestablish a satisfactory balance by adequate treatment. Small doses of cortisone will not only furnish the steroids essential to life and normal activity but will also halt the overstimulation that is largely responsible for the progressive destruction of the remaining adrenal tissue. The existence of mild forms of Addison's disease, the dissociation between certain clinical and biological signs, the variable test responses of certain patients with Addison's disease, and the prolonged course of the atrophic forms of the condition, with their exacerbations ending in brutal decompensation and death, can all be explained by this kinetic conception of adrenocortical insufficiency.

Zentralblatt für Chirurgie, Leipzig

78:561-608 (No. 14) 1953. *Partial Index*

Exclusion of Sympathetic by Means of Blockage of Stellate Ganglion for Control of Pain. H. Clemens.—p. 563.

Spinal Anesthesia: Use of Repository Strychnine Preparations to Prevent Headache Caused by Spinal Anesthesia. H. Lohmann.—p. 582.

*Intermittent Massive Penicillin (Shock) Therapy in Surgery: Observations on 1,300 Cases. A. von Lutzki.—p. 588.

Attempted Homeotransplantation in Second and Third Degree Burns. W. Jung.—p. 599.

Intermittent Massive Penicillin Therapy in Surgery.—After commenting on the relative therapeutic value of water soluble and repository penicillins, von Lutzki points out that in most surgical clinics in Germany both types of penicillin are used. He also discusses serum concentrations of penicillin that are necessary to exert bacteriostatic, bacteriocidal, and bacteriolytic effects on various microorganisms. The results of animal experiments, bacteriological observations, and determinations of blood levels of penicillin seem to suggest that, instead of striving to constantly maintain a bacteriostatic penicillin content in the blood, it might be preferable to raise the concentration of penicillin in the blood at intervals to bactericidal or bacteriolytic levels. By administering "massive doses of penicillin intermittently" (shock or thrust therapy), the pathogenic organisms could be combatted decisively during their different developmental phases, particularly during division and growth. At the author's clinic this form of intermittent massive penicillin therapy has been in use since 1949. In 1950 observations were reported in 400 patients in whom this form of penicillin therapy had been used, and since then 900 more patients have been treated in this way. These 1,300 patients included many with severe bacterial infections, such as ulcerations, abscesses, furuncles, carbuncles, thrombophlebitis, osteomyelitis, erysipelas, mastitis, and bronchopneumonia, and also hundreds of cases in which operations on abdominal or thoracic organs had to be performed in the presence of ba terial contamination. Observations on these patients convinc the author that the intermittent administration of massi doses of water soluble penicillin is very effective. Doses 400,000 I. U. are generally given twice a day. Such doses water soluble penicillin produce concentrations of 20 to I. U. per cubic centimeter of serum from 15 to 30 minut after the injection. This intermittent administration of massi doses of water soluble penicillin combines the ease of pository penicillin therapy with the therapeutic reliability short interval (every three hours) injections of penicillin; fact, in therapeutic efficacy it often surpasses both metho The bactericidal and bacteriolytic effect of penicillin is ful exploited with this form of therapy, and as a result the ther peutic spectrum of penicillin is extended and it becomes effe tive against highly resistant microorganisms. The emergen of resistant strains is avoided or reduced. Local tolerance high concentrations of water soluble penicillin is good.

78:689-736 (No. 17) 1953. Partial Index

*Advantages and Disadvantages of Küntscher's Method of Nailing in General Hospital. E. Weyand.—p. 689.

Simplifying Nailing of the Neck of the Femur. U. Glöckner.—p. 700.

Tumor-Like Endometriosis of the Thigh. A. Schulz and G. Zehr —p. 708.

Aspects of Hemangiomas of the Knee Joint. G. Bertele.—p. 711.

Experiences in 500 Intra-Arterial Injections. H.-J. Paulus.—p. 718.

Küntscher's Method of Nailing: Advantages and Disadvan tages.—Weyand says that the first enthusiasm for Küntscher method of nailing has given way to a more reserved attitud At his own clinic nailing was employed in 67 fractures tubular bones in 64 patients, that is, in a relatively sma proportion of fracture cases seen at a general hospital. Th number included 20 simple fractures, 44 compound fracture and 3 pseudarthroses. Compound fractures were usually treat by medullary nailing, provided there were no contraindic tions, such as cerebral concussion, shock, or unsuitable loc tion of the fracture. In closed fractures, however, naili was restricted. Except for two cases, nailing was done the open method, since, as a rule, the wound had to be treat anyway and the introduction of the nail is much simplifi in this way. Furthermore, shock and fat embolism can avoided. The author usually employed sulfonamides or pe cillin. Although secondary healing has not been reduced sin penicillin has been in use, suppurations of the soft parts, well as of the bones, has been considerably reduced. In ord to avoid complications caused by the nail itself the autho always used somewhat thinner nails whenever there was a doubt. For this reason, calcium sulfate (Plaster-of-Paris) cas or splints were used in addition to nailing, except in cas of fracture of the femur, in which the nail in itself insur adequate stability. Hospitalization generally was 8 weeks f fractures of the femur, 9 weeks for fractures of the leg belo the knee (7 weeks in case of the humerus), and 12 weeks f fractures of the arm below the elbow. A definite reductio in the time of hospitalization, in comparison with forme treatments, was achieved only in the case of fracture of th femur. Good position and its preservation as well as favo able functional results were a decided advantage in all frac tures treated by means of nailing. Despite fixation by bandage active movements could be encouraged during the perioc when the cast was changed, and still there was no need fo concern about proper position or pseudarthrosis. Callus fo mation was good in fractures of the femur and of the humeru but in cases of fractures below the knee or below the elbo it was less than normal in about 50% of the cases. Interna splinting seemed to be a particular advantage in cases i which the soft parts of the arm had been severely lacerated In the three cases of pseudarthrosis, adequate rigidity wa obtained in a relatively short time after nailing. The autho found nailing particularly helpful in simple and compound fractures of the femur, also in fractures of the leg below the knee, provided the fracture was about in the middle, and in pseudarthrosis of the lower leg. In fractures of the upper and lower arm he recommends nailing only when surgical intervention is necessary or when internal fixation seems advantageous on account of severe destruction of the soft parts.

BOOK REVIEWS

The Surgery of Infancy and Childhood: Its Principles and Techniques. By Robert E. Gross, M.D., D.Sc., William E. Ladd Professor of Children's Surgery, Harvard Medical School, Boston. Cloth. $16. Pp. 1000, with 1488 illustrations, drawings by Etta Piotti. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W.C.2, 1953.

When "Abdominal Surgery of Infancy and Childhood" by Ladd and Gross appeared in 1936, it was immediately accepted as authoritative and, indeed, the only current American text on the subject. Although reprinted in 1941 and 1947, it was never revised. As a result, the present volume has been long and eagerly awaited. Although written by Gross alone, this monograph follows the earlier work closely but covers a wider field. Although the title has been changed from "Abdominal Surgery" to "The Surgery of Infancy and Childhood," there is nothing on orthopedic surgery, neurosurgery, or otolaryngology, and, though there is a short chapter on wringer injuries of the arm, there is nothing on fractures or acute osteomyelitis. On the other hand, urology is covered, including the plastic correction of hypospadius, and there is a short chapter on gynecologic disorders in the female infant and child. Harelip and cleft palate are not included nor is the care of thermal burns. Nearly 30% of the text is devoted to thoracic surgery, a field to which the author himself has made notable contributions. Because the present volume adds only this subject to the original abdominal surgery of Ladd and Gross, a more accurate title would have been "The Abdominal and Thoracic Surgery of Infancy and Childhood." The book should be valuable for the detailed records of the author's experiences in the Children's Hospital at Boston. The improvements made in the past decade are clearly depicted. The illustrations are excellent. Most of the step-by-step drawings of operation technique, however, are interesting enough to those well trained in surgery but are obviously inadequate for the use of those who are not and who might be tempted to operate on the basis of a series of well-executed and simple diagrams. For example, a herniotomy in an infant may look easy from such visual instructions, yet, unless the operator is sufficiently trained in the handling of fragile, easily damaged tissues, he may find himself performing an inadequate and perhaps harmful operation. This is an important criticism, because the author clearly states that even the smallest babies can be operated on with safety and satisfaction if competent anesthetists are available and if the surgeon has experience in the field and is willing to make a delicate dissection and a careful handling of the parts. This conclusion, with which most well-trained surgeons and pediatricians would agree, is a departure from the previous policy of using a yarn truss until the child is one or two years old. This lesson still needs to be learned and widely adopted wherever adequate surgical treatment is available. Over 5,000 deaths a year in the continental United States are still listed under hernia. Most of these could be prevented by early herniotomy.

The chapters devoted to preoperative and postoperative care and anesthesia and to surgery in premature infants are especially noteworthy. An excellent though short page is devoted to psychogenic factors, so often neglected. An important point in the water balance of infants is emphasized and should be more widely known, namely the tendency toward the administration of too much fluid parenterally. It is made clear that the water requirements for maintenance in the absence of deficits in the premature and newborn infant should be closer to 60 ml. per kilogram of body weight than the usually recommended 150 ml. and that serious complications may follow the use of the latter amount, especially if the solution contains too much salt.

The sections on intestinal obstruction, including a new chapter on meconium ileus, should be valuable and illuminating. The fact that only one death occurred in 345 cases of peritonitis from perforated appendicitis offers ample justification for the plan of early operation following adequate preparation as used in all of these patients. In performing appendectomy for acute appendicitis, the permissible error is often discussed in terms of the proportion of such cases in which a normal appendix is found. Although the experience in this large clinic in this regard would have been of great interest, it is not stated.

The chapter on congenital malformations of the anus and rectum is excellent and complete except for the omission of treatment of rectovesical or rectovaginal fistulas that persist after the imperforate anus alone has been treated at birth by a perineal procedure. The combined abdominoperineal procedure performed in the newborn for a high-lying rectal pouch is well described and recommended but referred to as a "major undertaking." As a word of warning to the untrained surgeon, this would certainly be a valuable comment, but for the adequately trained surgeon, it might be unnecessarily discouraging. The chapter on congenital megacolon is unusually informative and includes a full and excellent description of Swenson's work. In the chapter on Meckel's diverticulum, perforation is mentioned and illustrated, but general peritonitis as its sequel is not discussed under either pathology or clinical manifestations. Prolapse of the rectum, though briefly discussed in the earlier book, is omitted. Malrotation, which is always difficult to describe, is well presented and illustrated in a separate chapter. Ladd's operation is described therein as a freeing and transferring of the cecum and ascending colon to the left, but no mention is made of another and perhaps commoner type of malrotation also described by Ladd, in which the cecum and terminal ileum are freed and transferred to the right.

This monograph in general is a source of useful, clearly presented information that not only will please the old readers of Ladd and Gross but undoubtedly will draw many new ones. It is an outstanding and significant addition to both surgical and pediatric literature.

Diseases of Muscle: A Study in Pathology. By Raymond D. Adams, M.A., M.D., Associate Clinical Professor of Neurology, Harvard Medical School, Boston, D. Denny-Brown, M.D., D.Phil., F.R.C.P., James Jackson Putnam Professor of Neurology, Harvard Medical School, and Carl M. Pearson, M.D. Cloth. $16. Pp. 556, with 347 illustrations. Paul B. Hoeber, Inc. (medical book department of Harper & Brothers), 49 E. 33rd St., New York 16, 1953.

This monograph, according to the authors, was "originally planned as a syllabus of the pathologic changes in skeletal muscle, to aid in the teaching of graduate students of neurology and pathology." As the material to be included accumulated, they decided to undertake a systematic review of the general subject of diseases of skeletal muscle from the viewpoints of embryology, anatomy, physiology, and pathology. In doing so, they had the active cooperation of pathologists, anatomists, and clinicians in the Boston area. The result is a beautifully printed and illustrated book.

The book is divided into three parts. Part 1 deals with the nature of skeletal muscle from the standpoint of embryology, anatomy, histology, chemistry, and physiology, with particular reference to muscular contraction and the relationship of the latter to neuronal activity. Part 2 is concerned with the pathological reactions of skeletal muscle, as for example, denervation atrophy, atrophy of disuse, reaction to injury, regeneration, contracture, etc. Both experimental and clinical material is included. Part 3 deals with the pathological changes relating to diseases of muscle. Here a large number of muscular diseases is discussed with the aid of many excellent photomicrographs. This book will be of particular interest and value to internists, neurologists, surgeons, and pathologists. An excellent index and hundreds of references will make it

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helpful to all who may be interested in muscular disease. It is the first monograph of its kind in English, and, by its publication, the authors and publishers have made a noteworthy contribution to this phase of American medicine.

Operative Gynecology. By Richard W. TeLinde, M.D., Professor of Gynecology, Johns Hopkins University, Baltimore. Second edition. Cloth. $20. Pp. 902, with 416 illustrations. J. B. Lippincott Company, 227-231 S. 6th St., Philadelphia 5; Aldine House, 10-13 Bedford St., London, W.S.2; 2083 Guy St., Montreal, 1953.

Dr. TeLinde has prepared a valuable treatise on gynecologic surgery. The subject is handled in a clear, convincing, and unbiased manner. Sufficient detail is included to make the book valuable from the standpoint of the occasional gynecologic operator, and, at the same time, hints and suggestions valuable to men with considerable gynecologic experience and training are given. Preoperative care, anesthesia, postoperative care, and complications are very well treated, and their importance to the ultimate success of the procedures is emphasized. The relationship of associated urological conditions, such as vesicovaginal and urethrovaginal fistulas and operative injury of the ureters, are carefully described, together with birth injury and prolapse of the vagina following supercervical as well as total hysterectomy. Malignant tumors of the uterus, their cytological diagnosis by the Papanicolaou smear method, and carcinoma in situ are thoroughly described.

There is an excellent discussion of endometriosis, including the theories of its origin, and of adenomyosis. Gonorrhea is very well handled, and the conservative management of this disease is stressed. The newer aspects of the management of tuberculosis of the female generative organs and the application of the antibiotics and *p*-aminosalicylic acid to these infections are described. Culdoscopy is discussed and its advantages and disadvantages pointed out on the basis of the author's personal experience with the procedure. Ovarian tumors are well covered, and the practical difficulties of detection, differential diagnosis, and management are clearly pointed out. Such associated conditions, not strictly gynecologic but that may be encountered and must be treated by the gynecologist, as retroperitoneal tumors, hernias, diastasis recti, appendicitis, injury to loops of intestine, regional ileitis, and Meckel's diverticulum are discussed. The final chapter, on estrogen therapy of the menopause, could have been omitted from a book on operative gynecology but was probably included for the sake of completeness.

The book is printed on good paper with very legible type. The illustrations generally are clear and anatomically correct. They are done for the most part by excellent artists, for example, Max Brödel. Some of the photomicrographs might have been more valuable had they been in color. This book should be valuable in the library of the gynecologist, the general surgeon, the general practitioner who is occasionally faced with gynecologic problems, and for students, interns, and residents.

The Fourth Mental Measurements Yearbook. Edited by Oscar Krisen Buros. Cloth. $18. Pp. 1163. Gryphon Press, 220 Montgomery St., Highland Park, New Jersey, 1953.

While technically called a yearbook, this volume actually covers the period from 1948 to 1951. This is a comprehensive and critical review of various psychological treatises on mental measurements, and it reviews 793 tests by 308 reviewers. In addition to this, 429 books on measurements in related fields are reviewed. Over half of the tests have been reviewed by one or more expert reviewers. The tests reviewed are divided into the following categories: achievement, batteries, character and personality, English, fine arts, foreign languages, intelligence, mathematics, reading, science, sensory-motor, social studies, vocations, and miscellaneous. Under the large miscellaneous category are considered agriculture, business education, computational and scoring devices, etiquette, handwriting, health, home economics, industrial arts, philosophy, psychology, record and report forms, religious education, safety education, and testing programs.

The value of this book lies in its critical evaluation of most of the psychological tests in common use and even those in relatively uncommon use. The critical evaluations by experts in this field are evident throughout the book; for example, Dr. Elton Hocking, in evaluating French I and II achievement examinations in secondary schools, states this test is not recommended for any circumstance and then goes on to explain that it is not recommended because of faulty construction in both French and English and poor layout typography and spelling. Another example of the carefully documented opinions is brought out, for example, by Jerome E. Doppelt in discussing the immediate test. It is a quick verbal intelligence test. He points out that in the determination of M.A. or I.Q. much is dependent on the proper allocation of words to mental years and therefore the procedure used to assign words is of considerable importance. Dr. Doppelt points out that the manual under consideration is woefully inadequate on this point. The matters of control studies are looked into by most of the reviewers. This is a reference book of interest to all investigators or practitioners whose fields touch on psychological testing. It is impossible to evaluate completely and critically a book of this magnitude.

The Book of Health: A Medical Encyclopedia for Everyone. Compiled and edited by Randolph Lee Clark, Jr., B.S., M.D., M.Sc., Director and Surgeon-in-Chief, University of Texas, Galveston, and Russell W. Cumley, B.A., M.A., Ph.D., Director of Publications, University of Texas. Second edition. Cloth. $10. Pp. 768, with some 1400 illustrations. Elsevier Press, Inc., 402 Lovett Blvd., Houston 6; 155 E. 82nd St., New York 28; 118 Spuistraat, Amsterdam C, Netherlands, 1953.

One of the most interesting and well-prepared books on health for the laity is this new addition to the field. The advisory board and the editorial board contain names known to almost everyone, and the book offers the culmination of what must have been a wealth of painstaking work. The book is beautifully prepared, is amply illustrated, is written in an understandable and straightforward manner, and unquestionably provides useful information in the way that will appeal to its users. It is not intended to be a guide for self-diagnosis and treatment but rather is a collection of information for those who are curious about health and disease. It contains some unusual information, for example, what a donor may do with his eyes after death. There are many pictures, such as those relating to corneal transplantation, which some might believe have no place in a book of this type, but, on the other hand, in this present day and age when the public is so curious about health matters these illustrations will do much to satisfy this curiosity. For physicians who wish to recommend a book to patients, this one will be satisfactory. As a source of answers to "how" and "why," it can be highly recommended.

Children in Play Therapy: A Key to Understanding Normal and Disturbed Emotions. By Clark E. Moustakas. Cloth. $4.50. Pp. 218, with illustrations. McGraw-Hill Book Company, Inc., 330 W. 42nd St., New York 18; 95 Farringdon St., London, E.C.4, 1953.

Playroom scenes make up most of this seven-chapter book in which actual case studies have been recorded and interpreted in some instances. Both normal children with mild difficulties and children with severe emotional problems are considered. Clues to underlying causes of the abnormal attitudes are provided in the conduct of the children, and, at the same time, guides are given to proper solution of the maladjustment. In one unusual approach, the cooperation of an entire family is given in great detail as problems of a 4-year-old daughter are resolved. This chapter contains interviews, reports of play sessions in which the mother is a participant, and interpretations and fills more than 100 pages.

Attitudes and the therapeutic process in this relatively new field are considered in the first chapter, and, in the second chapter, the significance of play therapy as a valuable mental hygiene preventive program is emphasized. Play therapy can be a satisfactory outlet at times for normal children, helping them to solve temporary home problems. This is illustrated in another chapter, in which several cases are presented and discussed. Similar presentations are utilized in the chapter dealing with disturbed children.

Parents and teachers having to cope with emotional disturbances in children will undoubtedly find this volume of considerable value as a source of insight and helpful suggestions on attitudes that may relieve difficult situations.

QUERIES AND MINOR NOTES

BLOOD TEST FOR CANCER

To the Editor:—*Is there a reliable blood test for cancer? What is the West-Hilliard test for cancer?*

Arthur L. Gaetani, M.D., Milton, Mass.

Answer.—There does not appear to be any blood test that will categorically indicate the presence of cancer. A number of serological tests have been proposed in recent years but these appear to be nonspecific and of little practical value. The West-Hilliard test was reported in *Proceedings of the Society of Experimental Biology and Medicine* (71:169, 1949). The authors described a proteolytic enzyme inhibitor in the serum of patients with a variety of pathological states including neoplastic disease. They stated that if the patient is doing poorly there is a high antichymotrypsin level, whereas this titer is reduced if clinical improvement occurs. They propose (*Cancer* 4:177, 1951) that the ratio of antichymotrypsin to antirennin may be of value in following the progress of cancer. When the antirennin level is high and the antichymotrypsin level is low, tumor growth is arrested, whereas, if the situation is reversed, the tumor is growing.

PARKINSON'S SYNDROME AND TRAUMA

To the Editor:—*Parkinson's syndrome developed in a patient about two months after he had a moderately severe concussion. Nielsen, in his book on clinical neurology, states that there is increasing belief that trauma is an important causative factor. Please discuss this opinion.*

Horace Hagen, M.D., San Luis Obispo, Calif.

Answer.—The question is not entirely clear, since "Parkinson's syndrome" is not a discrete entity. Parkinson described only the progressive degenerative form. Symptoms of lethargic encephalitis, manganese poisoning, asphyxia, and occasionally tumors may simulate but do not duplicate the degenerative "true" parkinsonism. The inquirer does not accurately quote Nielsen (Textbook of Clinical Neurology, New York, Paul B. Hoeber, 1946, p. 192), who wrote, "There is considerable evidence accumulating to indicate that the syndrome may be precipitated by trauma. It seems impossible for trauma to be the entire cause but it probably can be an exciting factor." It is true that the degenerative form may be precipitated by trauma, such as the inquirer describes, but it is assumed that the disease was latent, perhaps even present, before the concussion and that it caused the symptoms to appear sooner than they otherwise would have appeared. Aggravation of a preexisting condition is the most that can be ascribed to the trauma.

LEG CRAMPS DURING PREGNANCY

To the Editor:—*In my obstetric practice, I frequently see patients in the third trimester who have nocturnal leg cramps, although they receive adequate amounts of calcium. What therapy is indicated in these patients?*

O. J. Kirksey, M.D., Mulberry, Ark.

Answer.—Cramps in the legs during pregnancy are painful, tetanic contractions of the gastrocnemius muscle that commonly occur early in the morning and oftenest between the 24th and 36th weeks of pregnancy. They are preceded by stretching and relaxing of the calf muscles. They can be relieved in many cases by daily administration of 10 mg. (1/6 grain) of thiamine hydrochloride. During an attack, massage and/or standing on a cold floor, such as the floor of a bathroom, help. E. W. Page and E. P. Page (*Obst. & Gynec.* 1:94 [Jan.] 1953) maintain that large quantities of milk or dicalcium phosphate cause a predisposition to muscular tetany. The consumption of milk causes a fall in diffusible calcium and a rise in the inorganic phosphorus concentrations of the blood. According to Page and Page, leg cramps may be either prevented or relieved to a significant degree by *(a)* reducing the intake of milk, *(b)* using calcium salts free of phosphorus, or *(c)* adding small quantities of aluminum hydroxide gel to the diet to remove some of the dietary phosphorus from the intestinal tract. The reduction of milk and the addition of aluminum hydroxide gel to the diet relieves leg cramps by causing a rise in the ionizable calcium concentration of the blood.

ASCHHEIM-ZONDEK TEST

To the Editor:—*What conditions other than pregnancy will cause a positive result in the Friedman or Aschheim-Zondek test? I have been unable to find the answer in any of the available textbooks.*

M.D., New York.

Answer.—The Greenhill-DeLee "Textbook of Obstetrics" (ed. 10, Philadelphia, W. B. Saunders Company, 1951, page 125) says, "A positive reaction to the Aschheim-Zondek or other biologic test does not always indicate the presence of a pregnancy, a hydatidiform mole or a chorionepithelioma. Occasionally a positive reaction will be obtained in the following conditions: (1) ovarian cyst, especially a persistent corpus luteum, (2) during spontaneous or artificial menopause, (3) tuberculous salpingitis, (4) menstrual disorders, (5) during treatment with anterior pituitary preparations, (6) pelvic inflammatory disease and (7) carcinoma."

EFFECT OF ANTIHISTAMINES IN COAGULATION TIME

To the Editor:—*Is there any evidence that bleeding and coagulation times are affected by antihistamines? Is a woman more likely to bleed post partum if she has taken antihistamines in therapeutic doses prior to delivery?*

Robert G. Brown, M.D., Redwood City, Calif.

Answer.—Gerhard Zetler (*Klin. Wchnschr.* **29**:255 [April 1] 1951) says there is nothing in the literature about the effect of antihistamines on blood coagulation; therefore, he performed experiments on rabbits. He found the following changes were produced in blood coagulation time calculated in per cent of normal: histamine, -19%; antazoline (Anistine) hydrochloride, +18%; pyrilamine (Neo-Antergen) maleate, +27%; histamine plus antazoline hydrochloride, -9.4%; and histamine plus pyrilamine maleate, +7.8%. R. Fikentscher and M. Meyhoefer (*Med. Monatsschr.* 3:922, 1949) found only one case of profuse genital bleeding produced by antihistamines (case of Walther reported by R. Schubert) in the literature. Likewise, labor-like uterine contractions were produced in the premenstrual period after intravenous injections of antazoline hydrochloride in one of Walther's cases. Fikentscher and Meyhoefer report bleeding from the uterus as a side-effect of antihistamine therapy. They observed three cases within six months. There was no doubt that the bleeding was produced outside of the time of normal menstruation. In two cases, the bleeding followed one large dose of antazoline given in the midmenstrual interval. In the third patient, several doses were given before the bleeding occurred. In all the cases, the bleeding stopped when the medication was withdrawn. The authors say that antihistamines should be given with care to women who have profuse menses and, above all, to those who are pregnant. In all cases of bleeding of unknown origin, one must think of previous oral or parenteral administration of antihistamines as a possible cause.

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically so stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

M. C. Shelesnyak (*Am. J. Physiol.* **170**:522, 1952) says that unpublished data (Shelesnyak and Davies) on the influence of subcutaneously administered diphenhydramine (Benadryl) hydrochloride on pregnancy suggest that, in mice treated with the drug during the approximate time of natural placentation, interference with nidation occurs, since pregnancy does not go to term. T. W. McElin and B. T. Horton (*Am. J. M. Sc.* **218**:432, 1949) studied the effects of histamine during pregnancy and said that postpartum bleeding did not occur in any of their cases. S. Lundin (*Nord. med.* **45**:436, 1951) reports a case of hemorrhagic diathesis and renal insufficiency following antihistamine medication for pruritus gestationis. The bleeding manifested itself in hematuria and cutaneous and mucosal hemorrhages and ran a course with lowered prothrombin content and prolonged coagulation time. The accompanying renal insufficiency was of lower nephron nephrosis type. The author considers the condition to have been due to a lesion of the parenchyma following the medication. The patient was restored to health.

ULCERATIVE PHARYNGITIS IN AN INFANT

To the Editor:—*A normal 3-month-old child was given his first injection of tetanus and diphtheria toxoids with pertussis vaccine combined (alum precipitated). Six days later he had anorexia, a low-grade fever, and ulcerative pharyngitis. Penicillin appeared to help and dysphagia and anorexia was speedily relieved, but the ulcers were not changed in appearance. After 10 days the ulcers appeared to be healing. At this time administration of oxytetracycline (Terramycin) for four days appeared to speed up healing of the ulcers. The patient was subjected to the second injection of the toxoids combined with the vaccine. About 8 days later, and again, within 48 hours after the injection, the mother noticed a similar pharyngeal ulceration. This time the response was as good or better to diphenhydranine (Benadryl) than it had been to penicillin during the initial flare-up. Oxytetracycline was given as well as diphenhydramine, and healing was speeded up. It has been suggested that the pertussis component was responsible for these two reactions, or that the baby harbors a herpes-like virus, the resistance to which is temporarily lowered by the injections. It has been suggested that the third injection be given guardedly in divided doses according to his reaction to each injection. An older sibling shows a definite allergic reaction of a nasal type. I shall appreciate an opinion on this unusual phenomenon and recommendations as to further immunizing procedures.* *J. R. Burnett, M.D., Effingham, Ill.*

Answer.—The administration of various antigens to infants has been blamed not only for local (cystic) and systemic (febrile) reactions, but also for proxysmal cough, convulsions, encephalopathy, and poliomyelitic paralysis of injected limbs. This is perhaps the first reported instance in which the pertussis component of tetanus and diphtheria toxoids with pertussis vaccine combined is blamed for recurrent anorexia, dysphagia, and ulcerative pharyngitis. This repeated coincidence of a hitherto unreported sequel to antigen administration makes it seem that an extraneous factor of one kind or another precipitated the localized infection of the buccal mucosa. It is conceivable that regional blanching of the pharynx due to aspirin in an infant so young might create a spot of lessened resistance. The query failed to state whether the infant's throat appeared normal when carefully inspected by the physician before the antigen was given, whether medicaments, such as aspirin (insufficiently dissolved and diluted), were given after both injections, or whether, to placate the fretful infant, the mother introduced into the infant's mouth a contaminated pacifier or nipple. In infants so young, potent antibiotics should be used only against specific bacterial infections. Splitting the final dose of the toxoids and vaccine might be tried, but it seems doubtful whether this would influence the recurrent viral pharyngitis very much. One should be certain that an injection technique is flawless (see The Journal, Aug. 1, 1953, page 1314).

PSORIATIC ARTHRITIS

To the Editor:—*I have psoriatic arthritis; the course of th arthritis follows closely the progression of the psoriasi The only effective treatment in the past has been potassiu arsenite (Fowler's) solution, which brings about an almo complete remission. I would appreciate information on th toxic effects of potassium arsenite solution and the ther peutic value of any other arsenic preparation without th toxicity of potassium arsenite solution.*

M.D., New Mexico.

Answer.—Treatment of psoriasis by means of arsenic preparations may cause remission of skin eruptions. Th improvement, however, is generally temporary. Because th disease is so long-lasting and because of the high incidence relapses, the use of arsenic-containing preparations probabl is undesirable. If one were to repeat application of arseni containing medications each time a relapse occurs, the patie would undoubtedly suffer arsenic intoxication.

Acute arsenic poisoning, as occurs in suicide attempts wi arsenic-containing substances, following accidental ingestion copper acetoarsenite (paris green) or rat poison is characteri tically accompanied by intense abdominal pain, diarrhea, an vasomotor collapse. Death may follow within a few hours sufficient amounts are taken. Chronic arsenic poisoning, occurs after prolonged administration of potassium arsenit (Fowler's) solution, is rare today. A few decades ago, however when arsenic was widely used in medicine, this type of poisoning was not infrequent. Long-continued administration o potassium arsenite solution, or the other arsenic-containin preparations described in the Pharmacopeia, may induc peripheral neuritis, paralysis, anesthesias, and neuritic pain The skin may show edema, brown pigmentation, and hype keratoses, and the latter may progress to epithelioma forma tion. Anemia of the hypochromic type, anorexia, gastric di turbances, episodes of diarrhea, perforation of the nas septum, and encephalitis may occur. Confirmation of th diagnosis of chronic arsenic poisoning is made by demon strating arsenic in the urine, stools, hair, or nail clippings.

More satisfactory and far safer than arsenic for treatme of psoriasis is the Goeckerman treatment. The procedure entirely free of hazards of toxicity. The patient is instructed t remove as many of the scales as possible by soaking an rubbing with cloths or soft brushes. Thereafter, an ointme containing crude coal tar is applied. The following formula satisfactory: crude coal tar, 16 parts; zinc oxide, 16 part starch, 125 parts; and petrolatum (Vaseline), 240 parts. Th ointment is usually applied at night. In the morning it removed by scrubbing with soap and water, and thereafte a generalized ultraviolet light treatment is given with a lam This process may be repeated daily until the eruption is unde control. Treatments should be repeated from time to tim whenever the eruption tends to reappear. For patients wit arthritis as well as psoriasis, general measures, such as ade quate rest, removal of infected foci, and attention to diet s as to provide an optimum intake of basic foods, should b encouraged. In addition, physical therapy is usually wort while, and consideration may be given to the concomitan administration of gold, cortisone, corticotropin (ACTH), an other medicaments.

EXTERNAL MEASUREMENT OF THE HEART

To the Editor:—*Where can I find a chart giving average for the cardiothoracic ratio in relation to height and weigh charts?* *Robert H. Bossert, M.D., Paso Robles, Calif.*

Answer.—It is believed that any external measurement o heart size is not accurate, although it does provide a workable scheme in some instances. Errors occur particularly in cases of mitral stenosis in which the anterior-posterior diameter is increased and in which there is encroachment on the retrocardiac space. It is also true that in persons with enlargement of the outflow tract of the heart, distortion of the cardiac silhouette may be mistaken for myocardium.

The prediction table most commonly used for the average, normal transverse diameters of the heart silhouette based on the teleoroentgenogram is the one developed by Ungerleider and Clark and reported in the *American Heart Journal* (17:92, 1939). Another table frequently used for the prediction of average, normal orthodiagraphic measurements of the transverse diameter of the heart is the one by Hodges and Eyster reported first in the *Archives of Internal Medicine* (37:711, 1926). Those tables are reproduced in the new, fifth edition of the New York Heart Association's "Nomenclature and Criteria for Diagnosis of Diseases of the Heart and Blood Vessels" available at any office of American Heart Association.

Gonzalo Esguerra Gomez of Bogotá, Colombia, published in *Radiology* (August, 1951) "The Importance of the Relation Between the Anthropometric Index and the Transverse Cardiac Diameter for Appraising the Size of the Heart." The Medical Department of the Equitable Life Assurance Society of the United States has published an interesting brochure on roentgenology of the heart.

ODOR OF CARBON TETRACHLORIDE IN DRAFTING ROOM

To the Editor:—*In the drafting room of a local engineering company, carbon tetrachloride is used to clean drawings before blueprints are made. A large bit of cotton is saturated by pouring the carbon tetrachloride from a jug; the drawings are then vigorously scrubbed with the saturated cotton. This process is repeated for varying lengths of time during each working day so that for perhaps half of each day the air in the drafting room is permeated with a strong odor of carbon tetrachloride. There are no special provisions made for ventilation. Is it necessary to have an analysis of the air in this room? Would you recommend that a special hooded, forced draft booth be used for the cleaning of these drawings with carbon tetrachloride?*

Victor T. Hudson, M.D., Mobile, Ala.

Answer.—As described, this procedure is perilous. No air analysis is required. The concentration of fumes just above the drawing being cleaned inevitably will be high. A booth with an exhaust will provide some protection, but the cleaning involves close application, so that the draftsman would be required to thrust his head into the booth. Some general room ventilation of mechanical type is in order. Methylchloroform, a less harmful agent, may be a suitable substitute for the carbon tetrachloride, but this chemical may be corrosive for some metal drafting instruments. Methylene chloride or a 50% mixture of methylene chloride and toluene may serve better. If neither of these cleaning agents is suitable, some other less dangerous substitute should be found.

RENAL CALCULI

To the Editor:—*A 40-year-old patient from India has lived in Singapore for the past 20 years, and for the past 20 years he has had kidney stones. He has pyuria but very little pain, no temperature, dysuria, hematuria, or increased urinary frequency. He has normal blood calcium and phosphorus. His urine culture shows Staphylococcus aureus hemolyticus. His heart, blood pressure, and electrocardiogram are normal. Some physicians have advised operation, but others say he should be operated on only if obstruction develops. Which advice should he take?*

M.D., New York.

Answer.—The question of operating on a patient having multiple, large renal stones that are causing no symptoms other than pyuria, frequently presents itself. There are many factors involved. If there is evidence of renal retention, surgical treatment is indicated. This would be particularly true if the patient has a horse shoe kidney. Another factor indicating surgery would be an increasing degree of renal insufficiency. No data in regard to renal function are included in the description of this case. If the blood urea is normal and the function from either half of the kidney is equal, there would not be much indication for immediate surgical interference. Renal surgery would not be advisable unless the patient is living in a community where expert renal surgery, with the aid of renal fluoroscopy at the operating table, and excellent postoperative urologic treatment were available. Before a final answer could be given, a complete urologic study would be essential. Under the circumstances, therefore, it would seem that in this case the lesion would be better left alone.

A BRUIT IN THE LEFT EAR

To the Editor:—*A white woman, 34 years old, with physical examination entirely noncontributory, developed a high-pitched bruit in the left ear when she was seven months pregnant. Now, four months after delivery, the sound continues, varying slightly with emotional circulatory changes. I have been able to hear the sound with my ear against hers. It is a very disagreeable, high-pitched bruit, synchronous with the pulse. It would be disturbing even to a sluggish mentality but is particularly so to this highly sensitive patient. Is there any treatment?*

Malcolm B. Wilcox, M.D., Kearney, Neb.

Answer.—A bruit that can be heard with the ear or by stethoscope is vascular and can originate from the external carotid or one of its branches about the ear or from the sigmoid sinus and jugular vein. The only effective treatment is surgery. It usually is necessary to operate with the patient under local anesthesia and occlude the carotid and jugular veins in succession to determine from which source the noise arises.

OOPHORECTOMY AND BREAST CANCER

To the Editor:—*What is the status of oophorectomy as a prophylactic measure in breast cancer? Can you give some criteria for selecting cases for this treatment?*

M.D., New Jersey.

Answer.—Oophorectomy as a prophylactic measure in breast cancer has not been effective in reducing the incidence of recurrence or in increasing the time interval from the original treatment until the disease has recurred. In instances of recurrence of the disease after surgical and radiation treatment, oophorectomy and the use of androgens or estrogens, depending on the age of the patient, has held the disease in check for various periods of time and, in some instances, has caused complete regression. In breast cancer complicating pregnancy, bilateral oophorectomy at the time of cesarean section has produced regression in a number of cases treated in our clinic. It has been recommended as a routine procedure in this situation.

DIATHERMY

To the Editor:—*What, if any, advantage does microwave diathermy have over short wave diathermy? Is there any evidence that microwave diathermy may cause cancer?*

Charles D. Rollins, M.D., Henderson, N. C.

Answer.—Both short wave and microwave diathermy are used therapeutically to heat tissues. Since both are effective heating agents, it is difficult to say that one has any particular advantage over the other. There is no evidence to show that either produces cancer.

DIPLOPIA

To the Editor:—*Is double vision sometimes observed following ankylosis of the temporomaxillary joint? If so, is it directly related to ankylosis?*

E. Trible Gatewood, M.D., Richmond, Va.

Answer.—There is no definite clinical association between diplopia and ankylosis of the temporomandibular joint. The only association between this joint and the ocular muscles is the Marcus Gunn phenomenon in which there is elevation of a ptosed eyelid in association with opening of the mouth or lateral movements of the jaw. In addition, palsy of ocular muscles in association with the jaw winking has been described. The disease is considered to be either nuclear or very close to the nuclei.

PREVENTION OF ERYTHROBLASTOSIS

To the Editor:—*A woman is five months pregnant and on at least one previous occasion she had difficulty because she is Rh-negative and the child was Rh-positive. Tests for blocking type of Rh antibody show a strong positive reaction in a 1:16 dilution and a weak positive reaction in a 1:32 dilution. The patient's husband is Rh-positive but is known to be heterozygous. Is cortisone of any value in such situations? What is the best treatment in this case?*

William L. Gates, M.D., Sherrill, N. Y.

Answer.—The use of cortisone in erythroblastosis has proved disappointing. It has not prevented the sensitization of babies nor has it resulted in a better prognosis for babies already sensitized. The antibody titer is a poor prognostic guide. Preparations should be made prior to the delivery for an immediate exchange transfusion if the newborn has a positive Coombs test and a hemoglobin level of less than 15 gm. per 100 cc. If the serum bilirubin level rises above 20 mg. per 100 cc., the exchange transfusion should be repeated. It may be necessary to carry out this procedure three or four times in the first 48 hours in order to keep the serum bilirubin content at a safe level. Experience has demonstrated that these multiple exchange transfusions primarily reduce the bilirubin level and thus prevent serious damage to the baby by this toxic substance. Multiple exchange transfusions have improved tremendously the prognosis of the baby with erythroblastosis who is born alive.

RHINOLALIA

To the Editor:—*Because of progressive deafness due to middle ear disease an adenotonsillectomy was done on a 5-year-old boy. Preoperatively his voice was normal, but postoperative marked rhinolalia has persisted for four months with no improvement. In infancy a cleft soft palate was successfully repaired. What is the treatment and prognosis?*

M.D., New York.

Answer.—A patient who is born with a cleft palate may have an abnormality involving the pharyngeal opening of the eustachian tube. This does not always occur, but sometimes when it does occur, difficulty in hearing may ensue. Prior to the adenotonsillectomy performed on this 5-year-old patient who had a cleft of the soft palate repaired in infancy, speech was normal. The postoperative rhinolalia may be due to scar contraction of the anterior pillars. One must also consider any injury to the soft palate during the operation. If scar has resulted in the soft palate because of the operation, nasal speech may result. This situation can frequently be corrected by means of massaging the palate and speech therapy by a person trained to handle children with cleft palates. The results should be very satisfactory.

HAZARDOUS DRY CLEANING AGENTS

To the Editor:—*Is any form of toxic peripheral neuritis caused by the chemical reagents commonly used in dry-cleaning establishments?*

Stanley L. Clayton, M.D., Denison, Texas.

Answer.—The chief dry cleaning solvents at this time are chlorinated hydrocarbons such as carbon tetrachloride and trichloroethylene and petroleum derivatives such as naphtha and Stoddard's solvent. On a numerical basis, the major opportunity for exposure in a dry cleaning plant is the spot remover's table. This work is a petty art rather than a science or a trade, as every spot remover cherishes a few secret concoctions so that the range of possible exposure is high. Such harmful substances as hydrofluoric and oxalic acids are likely to be on every spot remover's table. Notwithstanding multiple possible exposures, it is not known that any of these substances provoke peripheral neuritis as the sole and characteristic response. On a remote basis, however, it is possible to associate peripheral neuritis with the chemicals of the dry cleaning trade. Some substances like carbon tetrachloride interfere with vitamin metabolism. In the presence of certain vitamin deficiencies, peripheral neuritis is commonplace.

ACTINIC DERMATITIS

To the Editor:—*A girl, aged 3½, has "actinic" dermatitis. This child has a maternal aunt with proved lupus erythematosus and another maternal aunt with "probable" lupus. The textbooks state that exposure to sunlight in such a patient should be avoided. This is practically impossible in a preschool child. I wonder if any time limit per week should be set and if various lotions that are recommended for protection are worthy of use.*

Robert L. Pavy, M.D., Lafayette, La.

Answer.—Lupus erythematosus is not thought to be a gene dermatosis. Some patients with lupus erythematosus are sensitive to sunlight. The child with actinic dermatitis should be helped by application of the following cream to the exposed areas of skin: 15% *p*-aminosalicylic acid and 15% titanium dioxide in hydrophilic ointment—U.S.P. and by the wearing of a hat, long sleeves, and jeans. In the fall it would be well to expose her skin to gradually increasing amounts of sunlight.

CRIMINAL ABORTION EIGHT YEARS AGO

To the Editor:—*Are there any residual physical signs that would be valid as court evidence to prove that a woman had a criminal abortion 8 to 10 years before? She has had marital sex relations. There has been no pertinent gynecologic disease. The woman has had no children since the abortion.*

M.D., New York.

Answer.—It is extremely doubtful that one could find specific physical evidence of a criminal abortion carried out 8 or 10 years previously. Evidences of trauma to the cervix need not be ascribed specifically to an abortion. Residual evidences of pelvic inflammatory disease and failure to conceive could have their origin in conditions other than an abortion.

SINUSITIS IN CHILDREN

To the Editor:—*In the Sept. 26, 1953, issue of* The Journal *in the answer to a question about the treatment of sinusitis in children, no mention is made of x-ray therapy, which is a valuable adjunct in the treatment of this disease. It should be seriously considered whenever a child fails to respond to the usual conservative treatments. As indicated in my paper in the* Journal of Pediatrics (39:223 [Aug.] 1951), *and as supported by many authorities, x-ray therapy is definitely worth trying before antrostomy or any operation is contemplated.*

Harold Levy, M.D.
750 St. Marks Ave.
Brooklyn 16.

TREATMENT FOR CORAL SNAKE BITES

To the Editor:—*In the Queries and Minor Notes on "Treatment for Coral Snake Bites"* (The Journal, *Sept. 12, 1953, page 173) the consultant answered "The rational treatment for coral snake bite would be, of course, the administration of suitable antivenin but the consultant is not certain whether such an antivenin is available." In preparing material for publication I have recently had occasion to read a bulletin that sheds additional light on this subject. The authors of the bulletin "Venomous Snakes of Texas and the First Aid Treatment of their Bites" (Bulletin No. 31, Texas Game and Fish Commission, Austin, Texas) state, "Because coral snakes cause such few bites in the United States no serum to neutralize the venom is manufactured in this country but in South America where these snakes are common and reach a length of five feet a serum against the poison is being produced by the Instituto Butantan at São Paulo, Brazil. This serum is sometimes available at the larger zoos throughout the United States."*

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Vancouver, Wash.

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ADVANCES IN TREATMENT OF ACUTE AND CHRONIC RENAL INSUFFICIENCY

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Renal insufficiency is defined for this discussion as a defect in excretory function that interferes with well-being or even places life in jeopardy. The acute insufficiencies result from more or less selective toxic or ischemic damage to tubule cells, they are usually associated with oliguria or anuria, and their course is toward recovery by cell regeneration; hence, the aim of treatment is to maintain the patient until this predictable repair has been adequately effected. In contrast, in chronic renal insufficiency, blocks and masses of nephrons have usually been destroyed beyond repair. Many patients with chronic renal insufficiency can be maintained in comfortable and useful life in spite of severe defects in renal function, but treatment is essentially palliative and the ultimate prognosis commonly grave.

The causes, lesions, courses, and therapeutic aims are different in acute and chronic renal insufficiency. In both, however, the basic principles of treatment are the same. These are, first, to reduce the load of metabolites that the kidney is called on to excrete and, second, to correct specific defects of body chemistry as they appear.

EXPERIMENTAL STUDIES

Perhaps the most significant single experimental fact is that potassium intoxication is the proximate cause of death after nephrectomy. Toxic effects of protein catabolism have been repeatedly demonstrated in experimental total and subtotal renal insufficiency, and a perverted protein metabolism may occur. I,[1] among others, have shown that high calory nonprotein diets prolong life after nephrectomy, but we have been unable to confirm claims of beneficial effects of testosterone or desoxycorticosterone.

The development of the artificial kidney by Kolff and its elaboration by others has lead to a variety of clinical and experimental studies in vividialysis. A particularly important finding of these studies is the fact that in animals that have had nephrectomy and that have been kept alive by any of these methods, severe hypertension and necrotizing vascular lesions often develop. The lesions seem to result from some poorly understood effect of renal insufficiency and are greatly intensified by hypertension. Some investigators relate the hypertension to excessive retention of sodium and water. Preliminary observations by Kolff on the distribution of sodium 24 in dogs so treated tend to support this. As Muirhead and co-workers [2] point out, however, the mechanism of this condition is still obscure, a lack of information partly attributable to technical difficulties in the precise study of water and electrolyte metabolism. At least, the fact that fluid and electrolyte overloads precipitate vascular lesions in dogs that have recently had nephrectomy [3] has the clinical implication that such overloads should be avoided in patients. The occurrence of vascular lesions in animals maintained by vividialysis has the further implication that there is little promise of indefinite arenal survival in current techniques. Lastly, the vascular lesions precipitated by renin in dogs that have had nephrectomy or in rats that have been treated with adrenal steroid materials may bear on the mechanisms that operate in clinical renal disease, in which the renal pressor system is presumably operative.

CHRONIC RENAL INSUFFICIENCY

The association of the syndrome of uremia with azotemia suggests that it results ultimately from some product or process of protein catabolism, although many symptoms of uremia could result from disturbances in electrolyte and water distribution. No "uremic toxin"—should such exist—has been demonstrated. That it is not urea is apparent from the comparison of results of dialysis of patients against baths containing urea; the clinical uremia improves, while chemical uremia is unchanged.[4]

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The etiological connotation of the term uremia is inappropriate. We have, however, done better than we knew by retaining it, since it directs attention to the therapeutic need for reducing protein catabolism to a reasonable minimum. This aim is achieved by supplying a diet adequate in calories but limited in protein, by eliminating infection, and by adding to these measures rest and reassurance.

Diet.—Protein restriction is far from new. Its recent more rigid application stems largely from the realization that nitrogen balance can be secured from diets that, like the Kempner rice diet, contain as little as 20 gm. of protein. Particular dietary schemes designed for greater palatability and more appropriate electrolyte distribution than the rice diet have been outlined by Borst[5] and Kolff.[6] Both of these observers use fat-sugar mixtures to decrease bulk while increasing caloric supply. These mixtures are useful but tend to cause nausea and should be prescribed in cautious daily increments beginning at a level of 15 cc. four times a day between meals. The consensus is that the aim is to provide between 2,000 and 3,000 calories and a sufficient restriction of protein (40, 30, or 20 gm. daily) to achieve minimal azotemia.

Infection.—Infection stimulates protein breakdown. It can, therefore, precipitate or aggravate uremia and in the form of pyelonephritis, which is common and frequently overlooked, contributes to further renal damage. It is urgent, therefore, that infections be looked for. In this regard, the antibiotics have enormously facilitated control of chronic renal disease.

Rest and Reassurance.—Both physical activity and anxiety increase metabolic rates and catabolic loads. Rest should be generously prescribed and secured, if need be by liberal use of materials that can be metabolized, such as barbiturates, trichloroacetaldehyde (Chloral), or, terminally, paraldehyde administered orally or rectally. The opiates are to be avoided. The direction of terminal care was described well by the late Thomas Addis.[7] Recently, advantage has been taken of the knowledge that sodium lactate in doses of from about 80 to 160 mEq. of a hypertonic solution sometimes increases renal function by a margin that, small in absolute terms, is claimed to stave off uremic symptoms.[8] Our experience with this regimen is small and to date unrewarding.

Electrolytes.—Correction of specific defects in body chemistry applies principally to electrolytes. Apart from the general principle of symptomatic relief of acidosis with sodium bicarbonate and the associated general measure of alimentary phosphate withdrawal by aluminum hydroxide gels (30 cc. four times a day), the major problems in this area occur in those patients who ha relatively specific and disproportionate damage to fur tions of electrolyte excretion. Such are the "sodiu wasters." These, without their individually determin sodium supplement, drain themselves into a state of hyp natremia and reversible uremia.[9] A related change is t syndrome of renal acidosis in which calcium loss resu in osteomalacia, which is relieved by administration alkali. These patients commonly tend also to waste pot sium, sometimes to the point of distressing hypokalem Hypokalemia may supervene in the absence of bo lesions. One such patient was carefully studied by Earle Another, who I saw in association with Dr. Willi Proudfit, strikingly illustrated the range of functional d sociations in chronic renal disease. She was unable concentrate or acidify urine or to excrete potassium a rate much less than that of glomerular filtration, wh the plasma clearances of mannitol and *p*-aminohippur (PAH) were normal, and the maximal tubular excreto capacity (Tm_{PAH}) was only slightly depressed. Her wea ness and bouts of paresis were associated with a seru potassium concentration of 2 mEq. per liter. These we relieved and a concentration of about 3 mEq. per lit maintained by supplementing the potassium in her di with potassium salts in doses of from 100 to 200 mE daily. The underlying renal disease in this patient, as many with renal acidosis, was apparently chronic py lonephritis. Attention is drawn to this exceptional ca merely to emphasize the unpredictable occurrence disproportionate remediable defects of electrolyte exc tion in some patients and the need for individualizati in prescribing content of electrolytes.

As to water, azotemia creates an osmotic diuresis which the nephrons tend to excrete a urine having t osmotic activity of plasma. This adaptation, as it is term by Platt,[11] obligates water output so that the patient ten naturally to determine his own optimum under the stim lus of thirst. When, for any reason, he is no longer ab to do this, dehydration and intensified uremia result, an fluids, usually glucose in water given parenterally, mu be supplied in amounts that will maintain a urinary outp of about 2 liters daily.

Dialysis.—Vividialysis is infrequently indicated chronic renal failure. The clinical response is common transient and often unimpressive. Exceptions occur patients in whom infection, trauma, or exacerbations renal disease have precipitated recoverable uremia an apparently, in some patients with polycystic renal diseas Merrill[4] observes that "the polyuric normotensive patie responds better (to hemodialysis) . . . than does the rel tively oliguric hypertensive," and he makes note of th distressing illusory hopes that the availability of "artifici kidneys" have raised in the minds of patients and the families. No less disappointing have been press notices kidney grafts. Such operations are properly approache primarily as an exact technical and biological study; thi has been the approach of the group at Peter Bent Brighar Hospital.

Hypertension.—The syndrome of malignant hyper tension may appear as a complication of chronic rena disease and may rapidly accelerate the deterioration o cardiac and renal status. When hypertension seems to b damaging per se, as it is in these patients and in those with cardiac failure, it is now possible to reduce diastolic pressure to reasonable levels, such as 110 mm. Hg, by cautious parenteral use of hexamethonium. This treatment has the risk that undue hypotension or even normotension may precipitate total renal failure. The dangers, difficulties, complications, and essentially palliative nature of such treatment should be explained to the patient or to the family. The treatment should be begun in the hospital. The initial intramuscular dose is determined from the response of arterial pressure to an intravenous test dose given slowly. The spacing and size of subsequent doses are determined by careful, frequent observation of blood pressure, azotemia, urine volume, and side-effects since, in renal failure, the drug is excreted slowly. Such treatment is not generally recommended. It should probably be reserved for those patients whose understanding is such that they can continue self-treatment at home.

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ACUTE RENAL INSUFFICIENCY

In the recent past the two major hazards to the anuric patient were fluid overloads and potassium intoxication. These dangers have not been wholly eliminated. Still, one major advance is the now widespread recognition that overinfusion is both futile and dangerous, an area of information to which Strauss,[12] among others, has contributed greatly. The consensus now is that fluid replacement should be limited to estimated losses plus from 0.5 to 1 liter of water. It is, therefore, most important to measure all the excretions.

Potassium intoxication in anuria occurs because the catabolism of 70 gm. of protein, as might occur in one day's total fast, releases 140 mEq. of nonexcretable potassium; therefore, in acute as in chronic renal disease, protein catabolism should be reduced to a minimum by the provision of at least 400 Cal. daily in the form of glucose of invert sugar. Full caloric maintenance at a level of about 2,500 Cal. is recommended by Borst [5] and Kolff.[6] This procedure is not accepted everywhere [13] and it is always difficult. Data that might unequivocally show the advantages of carbohydrate calories in excess of the recommended minimum should be made available. In the interim, the practice is to exceed the minimum whenever practical, as by the use of fat-sugar emulsions in those persons who can accept them.

Many patients require maintenance of caloric intake by intravenous routes. The problem that arises is how to give adequate calories without damaging veins or burdening the patient with fluid. In general, intravenous therapy is best conducted by a constant drip through a polythene venous catheter. It can be assumed that patients who are febrile and who have an infection require more than the minimum of 400 Cal. daily. They are probably advantageously given 40% dextrose solution through a catheter placed in the iliac or caval veins through femoral venipuncture.[14] In post-traumatic renal failure from battle wounds, Capt. Paul Teschan seems to have shown the advantage of this mode of caloric supply.

Carbohydrate rations not only tend to prevent hyperkalemia but, when deposited as glycogen, cause the storage of potassium. Insulin (1 unit to 3 gm. of dextrose) is advantageously added to the dextrose drip if hyperkalemia develops. The toxic myocardial effects of potassium can be temporarily antagonized by adding calcium gluconate in doses of from 10 to 20 gm. per 24 hours. These measures can be effective only over the course of hours or days. If anuria and hyperkalemia persist other modes of potassium elimination must be used. The two made recently available are cationic exchange resins (ammonium-sodium cycle) and vividialysis. Potassium can be removed effectively by intestinal lavage, but the effects of this on fluid and electrolyte distribution are hard to control.

As for the resins, their oral or rectal use demands careful control of sodium uptake and withdrawal. Given orally, they are not well tolerated; rectally, they are less efficient adsorbents but still can withdraw about 0.3 mEq. potassium per gram of resin. In patients with intestinal stasis, there is definite risk of impaction, so that those who need them most tolerate them least. Further advances are to be expected in this field of therapy.

The remaining alternative in those with severe hyperkalemia or serious uremia is vividialysis. It will rapidly remove potassium from the body and also nearly always elicit a dramatic clinical improvement that may be sufficient to permit the resumption of conservative management with food and fluid given orally. Conservative management without dialysis can yield a recovery rate of 80%.[13] Still, from the aspect of the patient's comfort and well-being, peritoneal dialysis by the method of Grollman [15] or hemodialysis are most useful adjuncts to treatment. Further, in those patients made severely ill by the effects of trauma and infection, as in post-traumatic anuria, conservative management is definitely ineffective and dialysis is necessary for survival.

As the kidneys may "open up," the patient's condition may continue to deteriorate for a day or two because of increasing uremia. More commonly, as diuresis increases, deterioration results from uncontrolled losses of potassium and sodium that occasionally continue for long periods.[16] Fortunately, appetite and a feeling of well-being usually begin to return at this time, so that oral maintenance and replacement become practical, although continued close supervision of clinical and chemical status is necessary. Consequently, patients with acute renal insufficiency require skilled supervision and good laboratory aids even in the phase of recovery. In brief, the management of acute renal insufficiency, particularly when it is associated with trauma and sepsis, requires an unusual amount of time, knowledge, and apparatus, all of which are justifiable because condition is essentially one from which recovery is possible.

SUMMARY AND CONCLUSIONS

Basic principles of treatment in acute and chronic renal insufficiency are similar, although the lesions, courses, and prognoses of these conditions are widely different.

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Studies in animals indicate that the possibility of arenal survival is small and suggest that excess loads of electrolytes, notably sodium, are undesirable.

Recent advances in treatment of chronic renal disease consist principally in more rigid use of low protein diets of adequate caloric content and the availability of means of controlling infection. The flame photometer has increased the ease with which disproportionate defects in electrolyte excretion can be recognized and corrected. In contrast to its usefulness in acute renal insufficiency, vividialysis is rarely effective in uncomplicated chronic renal disease. Depressor drugs, notably hexamethonium, are occasionally recommended for the control of hypertension and cardiac failure.

Advances in treatment of acute renal failure consist principally in improved conservative management and the availability of means of vividialysis. Conservative treatment consists essentially of fluid restriction, provision of a minimum of 400 carbohydrate calories daily, and control of hyperkalemia with dextrose-insulin-calcium mixtures and, when practical, cationic resins. Those persons who are severely ill require dialysis. Trauma and infection severely impair the efficacy of conservative management. The possibility of substantial recovery from and the complex course of acute renal insufficiency make it a condition that requires skilled supervision and adequate laboratory study.

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ADVANCES IN MANAGEMENT OF THE NEPHROTIC STATE

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The nephrotic state is a well-defined clinical entity without a generally accepted name. Nephrosis, lipemic or lipoid nephrosis, the nephrotic syndrome, and other names carry with them certain implications of etiology, pathology, or prognosis that are not justified in the present state of our very limited knowledge. For simplicity, the term nephrosis will be used to designate the syndrome of proteinuria, low serum albumin, high blood lipids, and variable edema. Forty-two patients, who have been studied and treated during the past three years, form the basis of the present report. One-half of the patients were 1 to 5 years old at the onset of edema. The age of the other patients varied evenly from 6 to 50 years.

No effort was made to classify patients according to cause (glomerular nephritis or lipoid nephrosis). Although a respiratory infection often preceded the onset of nephrosis, the signs of acute glomerular nephritis were not observed and the evidence of a streptococcal origin was not convincing. Patients who first had very similar signs and urine findings have followed different courses. Some have become entirely well, while a few have had increasing hypertension, hematuria, azotemia, and, at death, lesions resembling those of chronic glomerular nephritis. Did the latter group have a different disease from the onset, or did the glomerular lesions develop at a later stage? The final diagnosis has usually been made in retrospect. Although the late development of sustained hematuria, hypertension, and azotemia has been significant of a bad prognosis, minor and variable hematuria and elevation of arterial pressure and blood urea in the early stages of the disease have been of little prognostic value.

The course, without specific treatment, is one of chronic, fluctuating edema, often modified after an infection. In a few patients, the edema is of brief duration, but it usually goes on for many months, sometimes for years. Infections are frequent, especially in the respiratory tract, the skin, and the peritoneal cavity. In the pre-antibiotic era about one in every three patients used to die of infection. This figure has been greatly reduced. In the present series, there have as yet been no deaths from infection.

The ultimate outcome of reported groups is highly variable. Spontaneous, complete remissions have occurred in as many as 32% of one group of children in whom nephrosis and nephrotic nephritis was diagnosed.[1] In an unselected group of children and adults from another hospital, only 12% of the patients recovered completely, when deaths from infection were eliminated.[2] The remaining patients showed continuing signs of renal disease. Somewhat less than 40% of patients in the published series died with uremia within five years. Better results are recorded in those series from which patients with definite hemorrhagic nephritis are excluded.

The symptomatic improvement that can be achieved with modern treatment has made the collection of a simultaneous control series very difficult. We can describe the immediate changes in the patient's course after certain forms of treatment. The question whether we have modified the ultimate prognosis is still in doubt because of the lack of comparable controls.

AIMS AND MODES OF TREATMENT

Treatment should be directed primarily toward the survival and ultimate recovery of the patient from the renal disease and secondarily toward the relief of edema and other symptomatic manifestations of the nephrotic state. Survival depends on management of intercurrent hazards, notably infection, malnutrition, and massive edema, together with the rarer complications of hyper-

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tensive crisis, cardiac failure, and acute exacerbations of renal insufficiency. True recovery is the cessation of activity of the renal lesion. Clinical relief of symptoms and signs may occur with residual evidences of a renal lesion or of its consequences, namely, hypertension. Edema may be worthy of therapeutic attention when it threatens the breathing reserve or makes nutrition a serious problem. Measures directed against edema should be evaluated not only for effectiveness but also for possible risks, both immediate and long-range.

Bed rest stimulates diuresis in only the mildest cases. It is apparently without effect on the outcome of the disease. In addition to its bad effect on morale, prolonged bed rest may cause undesirable shifts of fluid to the genitalia, abdomen, or chest and may predispose the patient to venous thrombosis.

A generous fluid intake is usually prescribed but is not always accepted by the patient. Anorexia may frustrate efforts to improve nutrition. Various special diets have been tried without convincing results. Restriction of sodium intake to less than 1 gm. of sodium chloride per day may be helpful, but this may also impair the total intake of food or may lead to an undesirable reduction of serum sodium concentration. Cation exchange resins have been of very limited assistance and have been poorly tolerated. The conventional diuretics are unreliable. We have not used mercurial diuretics because of the risk of serious immediate reactions and possible aggravation of the renal lesion. Concentrated human serum albumin induces a temporary diuresis in about one-half of the patients who receive 50 gm. intravenously for four or more days.[3] Whole blood may be useful in patients with marked anemia.

ROLE OF INFECTION

The control of preexisting infections and the removal of foci of infection should be undertaken only in accordance with established principles of sound practice, not in the hope of improvement of the nephrotic state.

Intercurrent infection is one of the chief causes of morbidity and death in nephrosis. The upper respiratory tract, the skin, and the peritoneal cavity seem especially vulnerable, and bacteremia is not infrequent. Prompt treatment is essential. The common infection caused by a pneumococcus or hemolytic Streptococcus is controlled with penicillin. Less common and more resistant bacteria of the gram-negative types have appeared with increasing frequency with the widespread use of antibiotics, calling for the use of penicillin plus streptomycin or a broad spectrum antibiotic in immediate treatment. Bacteriological cultures and study of sensitivity of organisms should be made at once in any serious infection.

The long-term administration of antibiotics to avoid recurrent infection has not yet been generally accepted. The replacement of the normal flora with bizarre and resistant organisms presents new problems, and the effectiveness of the prophylaxis is uncertain. We have preferred prompt treatment rather than attempts at prevention.

MODIFICATION OF RENAL LESION

Spontaneous diuresis sometimes follows an infection. Measles and vaccinia have been induced in nonimmune patients, with temporary or lasting benefit. Influenza vaccine has also been followed by improvement in some cases.[4] Nitrogen mustard has been administered with benefit to certain patients, but many undesirable effects are produced.[5] Corticotropin (ACTH), cortisone, and hydrocortisone will be considered in more detail, since their more general use warrants further consideration of their effectiveness and certain hazards.

CORTICOTROPIN, CORTISONE, OR HYDROCORTISONE

Much remains to be learned about the mechanism of action of the adrenal cortical hormones in nephrosis. In addition to the renal lesion in nephrosis with proteinuria, impaired glomerular filtration, oliguria, and sodium retention, there is evidence suggesting some aberrations of adrenal cortical function and of the metabolism of proteins and lipids. Improvement or remission of many of these evidences of the disease may occur either during or after treatment with corticotropin, cortisone, or hydrocortisone.[6]

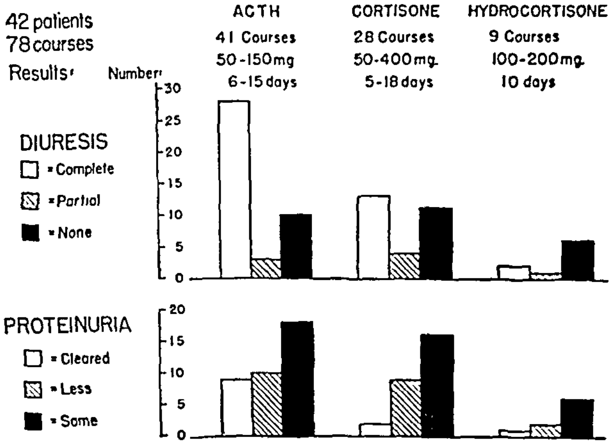

Fig. 1.—Figure shows the immediate effects of the adrenocortical hormones on edema and proteinuria of the nephrotic state. It is evident that the incidence of diuresis and clearing of proteinuria was highest in patients *receiving corticotropin* (ACTH).

In our series of patients, these hormones have been given in full dosage for 10 to 14 days (fig. 1) and then withdrawn abruptly. Shorter periods of administration are less likely to reach a full effect. Treatment for periods

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longer than two weeks have generally not been employed for several reasons. There seems to be a diminishing return of benefit with further treatment, if no improvement is evident after two weeks. The hazards of prolonged use of the potent adrenocortical hormones in these patients are considerable. Since we have been reluctant to administer the hormones without hospitalization and the closest observation, the cost in time and expense has been heavy. Furthermore, improvement may occur when the administration of the hormone is stopped. In contrast to prolonged treatment, brief courses are safer and easier for all concerned and offer the double chance for improvement on either treatment or withdrawal.

It is axiomatic that the optimal dosage is one that produces the desired effect with a minimum of undesirable actions. Daily dosage less than 40 mg. of corticotropin or 100 mg. of cortisone is likely to be ineffectual, even in small children. Doses of more than 100 mg. of corticotropin or 300 mg. of cortisone per day are likely to be associated with pronounced side-effects. We suggest as initial dosage in children: corticotropin, 50 mg. intramuscularly per day, divided into four equal doses; corticotropin gel, 20 units twice a day; or cortisone, 200 mg. per day, divided into four equal oral doses or given intramuscularly once a day if oral medication is refused or vomited. Hydrocortisone acetate is effective when given by mouth in dosage comparable to that of cortisone; intramuscular injection of hydrocortisone acetate is apparently less reliable. Older children and adults may be given one and one-half times these doses. If improvement fails to appear, a further course of treatment with larger doses is recommended.

Special Risks in Use of Corticotropin or Cortisone in Nephrosis

- Initial stage
  - Oliguria
  - Increased edema
  - Increased blood pressure
    - Hypertensive encephalopathy
  - Hypotonicity—low serum sodium
  - High serum potassium
  - Increase in azotemia
- Diuresis
  - Potassium depletion
  - Dehydration
  - Peripheral vascular collapse
  - Tachycardia
- Infection
  - Masking of symptoms and signs
  - Rapid spread
  - Failure of antibiotics
- Blood
  - Leukocytosis
  - Thrombosis and embolism

General agreement has not yet been reached on the relative effectiveness of corticotropin as compared with cortisone. We have usually started with a moderate dose of cortisone. If this failed, the next course of treatment was frequently with corticotropin at a somewhat more effective dosage. This approach has been one of convenience, since cortisone can be taken by mouth and the discomfort and slight risk of multiple intramuscular injections in an edematous, infection prone patient avoided. This has weighted the series in favor of corticotropin, since any further treatment may result in improvement after one or more unsuccessful attempts. The data seem to show that corticotropin is slightly more effective than cortisone, but the effects may be due to quantitative differences in the effective levels of adrenal hormones produced rather than to some undetermined qualitative difference in biological action. Repeated courses of treatment favor the opportunities for improvement in resistant cases.

SIDE-EFFECTS OF TREATMENT

The administration of large doses of these potent hormones may lead to the familiar undesirable clinical reactions. In addition to the recognized risks, there are certain unusual hazards in the treatment of patients with nephrosis (see table). When edema and effusions are massive, the further fluid retention, which occurs in the early days of treatment, may produce severe discomfort and further impairment of vital capacity. In such cases, it may be desirable to do an abdominal paracentesis before administering the hormone. Severe restriction of sodium intake is unsatisfactory, since fluid accumulates in any case, while the serum (and extracellular) sodium concentration may fall to dangerously low levels. A diet containing 3 gm. of sodium chloride per day seems to be satisfactory, in most patients.

Small increases in blood pressure are the rule during the use of corticotropin or cortisone. An occasional patient has a sharp rise of pressure, culminating in hypertensive encephalopathy if the hormone is not withheld. The increase in arterial pressure during administration of cortisone appears less than that observed with corticotropin.

Increased levels of urea in the blood are common in nephrosis, and these may rise further with the administration of the adrenocortical hormones. Such changes are usually of no clinical importance, unless the patient is already on the verge of renal insufficiency. The blood creatinine is much more useful in assessing renal functional status before and during treatment because it is only slightly affected by oliguria and increased protein catabolism.

Potassium balance may change in a rapid and unexpected manner during treatment. It is important to check the serum potassium concentration at intervals of two or three days. In the early days of treatment, the serum potassium may rise rapidly to dangerous levels. This can usually be controlled with an increased fluid intake and a reduced potassium content of the diet. As the urine volume increases during later days of treatment, the serum potassium concentration may fall below normal and call for supplements of potassium. Potassium chloride, 3 to 5 gm. per day, will usually suffice, but, during a profuse diuresis, much larger quantities may be necessary to balance the large losses in the urine.

Tachycardia, lowered blood pressure, and dehydration may appear at the end of a rapid diuresis. Extra sodium should be added to the diet, and blood or concentrated human serum albumin may be used to combat hypotension.

Infection has been a frequent and dangerous complication of treatment. Symptoms and signs of infection are often concealed by the antipyretic and anti-inflammatory actions of the adrenal cortical hormones, and a clinical flare-up is frequently observed when administration of the hormones is stopped. The leukocytosis that regularly develops during treatment may be misleading. The benefits of hormonal treatment may be blocked or interrupted by an infection. Routine administration of full therapeutic doses of a broad spectrum antibiotic prevents many of these hazards, but infection with resistant organisms may occur. Any new symptoms or signs should stimulate a careful search for infection. Hormone administration should be withdrawn if rapid spread of infection occurs.

Venous thrombosis and embolism may occur spontaneously in nephrosis. Since these complications may possibly be precipitated by infection and by adrenal cortical therapy, a careful watch should be maintained.

COMMENT

The improvement that follows the use of corticotropin or cortisone in nephrosis varies from complete remission to no measurable effect. Repeated courses of treatment may produce further beneficial effects. If relapse occurs after a period of improvement, another course of treatment is indicated. When remission lasts for more than six months, the outlook is good; relapse after a year's remission is rarer (fig. 2).

A much longer period of observation will be necessary to evaluate the final result, but certain conclusions can be drawn from the available data. Approximately 43% of both the adults and the children who have received corticotropin or cortisone, or both, have now been apparently well for more than one year (fig. 3). This result is encouraging, but it is only slightly better than the spontaneous outcome of some groups of patients who did not receive adrenal cortical hormones. Two additional questions arise. Are the risks of hormonal treatment justified by the results? Can we do better with any other plan of administration of the adrenal cortical hormones? These questions are related, since the larger dosage and more prolonged treatment, which have been suggested, may well increase the incidence of undesirable hormone actions.

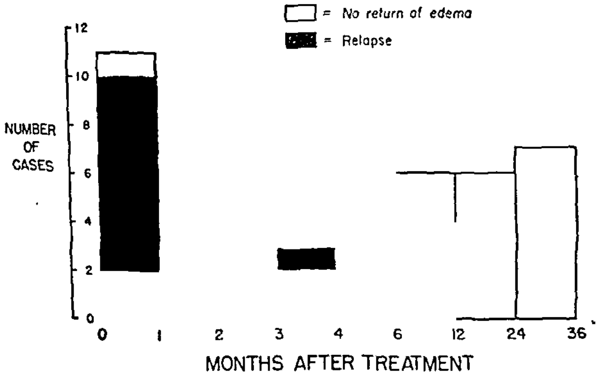

Fig. 2.—Duration of relief of edema after treatment with corticotropin (ACTH), cortisone, or hydrocortisone is shown. Edema reappeared in the first month after treatment in 23% of patients and relapses occurred in 6% during each of the next five months. Edema did not recur after it had been absent for one year.

Severe complications and a few deaths have been reported during the administration of very large doses of corticotropin.[6e] We have preferred to use a more cautious therapeutic approach, since some patients who fail to respond to treatment recover spontaneously. If more patients are to be helped, more prolonged treatment may be helpful.[7] This approach would seem most attractive in those patients who respond to treatment with complete disappearance of signs of the renal lesion, only to relapse after the end of treatment and ultimately to progress to signs of glomerular nephritis and uremia and then to death. Insufficient data are available at this time to evaluate plans for long-term treatment. Therapeutic enthusiasm should not obscure certain inevitable problems of long-term treatment, especially the cumulative hazards to the patient and the heavy burden of constant medical attention necessary for the patient's protection.

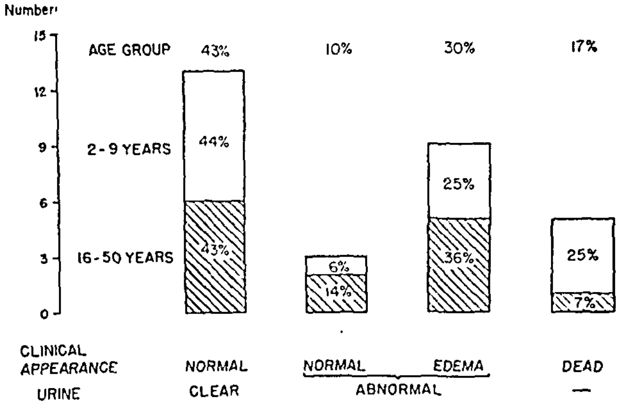

Fig. 3.—Figure shows clinical status and status of urine in patients followed for more than one year after treatment. Percentages at the top of each block are for all ages; open areas represent children and shaded areas adults. About 43% of children and adults recovered from nephrotic state after treatment.

SUMMARY AND CONCLUSIONS

Observations are made on the effects of treatment of 42 children and adults in the nephrotic state. Prompt treatment has been effective in the control of intercurrent infection. Continuous administration of antibiotics for prophylaxis has not been used except during treatment with cortisone or corticotropin (ACTH).

Treatment with cortisone or corticotropin apparently shortened the nephrotic episode in certain patients. The lack of comparable controls makes it difficult to be certain whether the ultimate outcome of the whole group has been improved. One or more courses of treatment with moderate dosage of cortisone or corticotropin for two weeks has reduced or eliminated symptoms and signs of the nephrotic state in a large proportion of the patients. Repeated relapse or failure of treatment calls for some change in the plan of treatment. Larger dosage or more prolonged treatment with cortisone or corticotropin may be indicated in selected cases, but some increase in the hazards of treatment must be anticipated and controlled.

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7. Kramer, B.; Goldman, H., and Cason, L.: Treatment of the Non-edematous Nephrotic Child with ACTH, J. Pediat. **41**: 792-803 (Dec.) 1952. Merrill, A. J., and Mitchell, G. L., Jr.: Continuous ACTH Therapy of Nephrotic Syndrome in Children, Abstract from 45th Annual Meeting of the Am. Soc. for Clin. Invest. (May) 1953, p. 44. Lange, K.; Slobody, L. B., and Strang, R. H.: Serum Complement Levels as a Guide for Diagnosis and Therapy of the Nephrotic Syndrome, ibid., p. 36.

OUTLOOK FOR PATIENTS WITH GLOMERULONEPHRITIS

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Bright realized early in his studies that renal disease was a complex problem.[1] He stressed the relationship of renal dysfunction and abnormality to general edema and cardiovascular abnormalities. In addition, he recognized the development of metabolic disturbances as the disease progressed and, for a better understanding of their significance, invited the cooperation of the chemist. The results of this joint venture, though meager, anticipated by 75 years some of the biochemical findings now thoroughly appreciated by the medical profession.

The early students of diffuse nephritis realized the serious outlook for the patient suffering from the progressive form of the disease. They learned slowly, however, that there was an acute reversible type [2] that often healed, and that some of the patients with the chronic form lived and were able to work for a number of years. Bright, after a decade of study,[1b] partially reversed his earlier gloomy predictions with regard to the latter group and stated, "I believe with care its fatal effects may be kept at bay and a hazardous life may be protracted for many years." This was also the viewpoint in succeeding generations of such authorities as Johnson,[3] Bartels [4] and Roberts [5] and others.[6] Bartels and Roberts went a step further and stated that they had observed patients who had chronic parenchymatous nephritis but later recovered.

To clarify our present conceptions with regard to the course of diffuse nephritis, a group of us in Rochester made a follow-up study of a special series of 50 patients who had acute or chronic glomerulonephritis or lipoid nephrosis. We endeavored to make the diagnosis as accurate as possible and thus to avoid cases of a mixed type, which have in the past confused similar studies. Only cases of which we have records for nine and one-half years or more were included; actually some patients we observed over periods of 20 to 40 years (table 1).

The data of this follow-up study were obtained by (subsequent visit and examination, (2) letter from patie or patient's near relative, (3) letter from patient's hor physician, (4) sometimes on change of address, throu a credit bureau, or (5) statement from the municipal state bureau of statistics in case of death in certa instances.

Periodic investigation of the individual patient i cluded a clinical evaluation, appropriate chemical es mations of certain constituents of the blood and uri and specific renal functional studies. These observatio were frequently made during a period of hospital ca and therapeutic investigation. Our chief objective h been the accumulation of significant data during the lon term course of the disease and the interpretation of th value as to the initiation of treatment and as to prognos

RESULTS

1. *Acute Glomerulonephritis.*—Our results in a sm series of eight cases of acute glomerulonephritis w regard to age, sex, and duration of the disease confirm previous investigations.[6b] All our patients were mal aged 11 to 63 years. Five were young adults, but thi were in the sixth and seventh decades. All our patie recovered, the duration of their illnesses varying fr one month to three years. Subsequent to the patien recoveries, we observed them for from 10 to 26 yea In none was there a recurrence of the disease nor c cardiovascular alterations develop in any. In a sin patient, renal disease was accompanied by hyperthyroi ism, which responded satisfactorily to surgical treatme In another patient, aged 11 years, during the first we of illness, renal function, particularly the excretion urea, was seriously reduced, the concentration in t blood rising to 376 mg. per 100 cc. Within two weeks had fallen to a normal level. Some years later this patie was inducted into the armed forces, served his term, a was discharged in excellent health. Our experience wi these eight patients confirms a statement made by Joh son, in 1889 [7] that patients who have acute nephritis m recover in a similar manner to those who have acu bronchitis or pneumonia. Bartels, however, in 187 warned the profession that there may be fatal cases acute nephritis, and acute fulminating cases still occu Statistical studies carried out in recent years, both c children and on adults, indicate that a large percenta of these patients recover. The most satisfactory resul appear to be in patients who receive early and adequa medical care.

2. *Lipoid Nephrosis.*—It is agreed by all that lipoi nephrosis is difficult to distinguish from glomerul nephritis with nephrotic features. Our criterion for di tinguishing the former from the latter was the absence c

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Read in the Symposium on Recent Advances in Nephritis before the Section on Experimental Medicine and Therapeutics at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

[1] (*a*) Bright, R.: Reports of Medical Cases Selected with a View of Illustrating the Symptoms and Cure of Diseases by a Reference to Morbid Anatomy, London, Longman, Rees, Orme, Brown and Green, 1827, vol. 1; (*b*) Cases and Observations, Illustrative of Renal Disease Accompanied with the Secretion of Albuminous Urine, Guy's Hosp. Rep. **1**: 338-379, 1836; (*c*) Tabular View of the Morbid Appearances in 100 Cases Connected with Albuminous Urine: With Observations, ibid. **1**: 380-400, 1836.

[2] Bright, R.: Observations and 24 Cases Illustrative of Renal Disease Accompanied with the Secretion of Albuminous Urine, Memoir II, Guy's Hosp. Rep. **5**: 101-161, 1840.

[3] Johnson, G.: On the Forms and Stages of Bright's Disease of the Kidneys, with Especial Reference to Diagnosis and Prognosis, Med.-Chir. Tr., London **42**: 153-164, 1859.

[4] Bartels, C.: The Structural Diseases of the Kidney, and General Symptoms of Renal Affections, in Cyclopedia of the Practice of Medicine, edited by H. von Ziemssen, New York, William Wood and Company, 1877, vol. 15, pp. 1-539.

[5] Roberts, W.: A Practical Treatise on Urinary and Renal Diseases, Including Urinary Deposits, ed. 4, London, Smith, Elder & Co., 1885.

[6] (*a*) Loeb, R. F.: Nephritis (Bright's Disease), in Cecil, R. L.; Loeb, R. F., and others: A Textbook of Medicine, ed. 8, Philadelphia, W. B. Saunders Company, 1951, pp. 931-950. (*b*) Addis, T.: Glomerular Nephritis: Diagnosis and Treatment, New York, the Macmillan Company, 1948.

[7] Johnson, G.: The Clinical History of Intermittent and Latent Albuminuria, Brit. M. J. **1**: 225-229 (Feb. 2) 1889.

diminished glomerular function. We have placed four patients in the group having lipoid nephrosis. Their ages varied from 18 to 24 years. Some data concerning patient H. M. are given in table 2. Three patients were women and one was a man. We have evidence that all four patients recovered. The duration of the disease varied in three from 3 months to 10 years; in the fourth patient we surmise its duration was considerably less than 20 years, although the crucial tests, indicating recovery, were made at the end of that period (table 3). Frequent observations of one of these patients were made over a period of three decades and at no time following recovery were we able to reveal any renal or cardiovascular dysfunction. Murphy and associates [8] and Rennie [9] have reported similar results in some of their adult patients, and Schwarz and associates, Block and colleagues, Barness, Moll, and Janeway,[10] and Riley in certain children.

TABLE 1.—*Type of Disease in Fifty Cases of Glomerulonephritis*

Type of Disease	No. of Cases	Age of Onset, Years	Sex	Duration of Disease, Years	Length of Follow-Up, Years
Acute glomerulonephritis...	8	11-63	M	1/12- 3	10-26
Lipoid nephrosis............	4	18-24	1 M 3 F	1/4-20*	6-30
Chronic glomerulonephritis					
1. Patients who recovered	4	9-60	2 M 2 F	2- 8	6-20
2. Cases with nephrotic features	26	17-55	14 M 12 F	9½-41	9-41
3. Dry type..............	8	11-54	6 M 2 F	10½-27½	10½-27½

* Recovery period of less than 20 years.

TABLE 2.—*Data in a Case of Chronic Lipoid Nephrosis with Recovery in a Youth (H. M.), Aged Eighteen*

				Blood			
Date	Weight, Kg.	Blood Pressure, Mm. Hg	Edema, Grade	Erythrocytes, Millions per Cu. Mm.	Urea, Mg. per 100 Cc.	Serum Protein, Gm. per 100 Cc.	Urine Protein, Grade
5/15/25	..	......	3	...	..	...	3
8/12/25*	82	120/85	4	5.5	15	4.0	3
9/29/25	58	......	0	...	21	5.2	2
3/ 2/28	70	110/75	0	4.8	23	...	3
12/18/33†	69	125/85	0	...	32	7.9	0
4/10/53‡	..	118/70	0	...	..	...	0

* Plasma cholesterol 615 mg. per 100 cc.
† Plasma cholesterol 222 mg. per 100 cc. Hemoglobin level 17.5 gm. per 100 cc.
‡ The duration of the illness was from 3 to 8 years, following which there was no evidence of disease for 19 years. The total observation extended over 28 years.

3. *Chronic Glomerulonephritis.*—The group of patients with chronic glomerulonephritis is of great interest for many reasons. Of the total of 38 patients, 4 recovered, and the life of 34 patients, who had persistent evidence of the disease, was prolonged for from 9½ [11] to 41 years. There have been reports of similar single cases from time to time in the literature. Recovery from chronic glomerulonephritis is indeed a rare event (table 3). One is not greatly surprised that it occurred in a girl and a boy 9 and 16 years of age. Its occurrence in 2 adults, aged 56 and 60, is exceptional, however. One of the latter was also suffering from hyperthyroidism, which responded to surgical treatment (partial thyroidectomy). The other, a 56-year-old man (P. K.), represented really an extraordinary case of nephritis (Bright's disease). During the first year of his illness, hematuria and anasarca were present, and edema was accompanied by a large excretion of protein in the urine, hypoproteinemia, and hypercholesteremia; renal insufficiency was also considerable, the blood creatinine rising to a concentration of 4.2 mg. in 100 cc. and the urea clearance falling to 11 cc.; hypertension and a severe vascular retinitis were present and for a short period pulmonary edema and mental confusion were striking symptoms. He slowly improved during the next 10 months and then returned to work. Renal insufficiency continued for another year. Six years after onset, evidence of renal and vascular disease was lacking (table 4). Six years later the patient died suddenly in a berth of a Pullman sleeping car. Coronary disease appeared to be the most likely cause.

The presence of edema in chronic glomerulonephritis is a difficult and challenging problem. Earlier investigators considered it as primarily renal in origin, but now it is known that general metabolic factors may also play a role. An obvious difficulty in the management of edema is the presence of renal damage. A physician naturally hesitates to stimulate a diseased organ in order to produce diuresis. Nevertheless we believe definite progress has been made in the treatment of the nephrotic syndrome in glomerulonephritis. This advance is due, in great part, to the application of biochemical studies to these patients. In our

TABLE 3.—*Data in Sixteen Cases of Glomerulonephritis with Recovery*

Type of Disease	No. of Cases	Age of Onset, Years	Sex	Duration of Disease, Years	Length of Follow-Up, Years
Acute glomerulonephritis...	8	11-63	M	1/12- 3	10-26
Lipoid nephrosis............	4	18-24	1 M 3 F	1/4-20*	6*-30
Chronic glomerulonephritis	4	9-60	2 M 2 F	2- 8†	6†-20

* The recovery period for this patient, L. C., was less than 20 years. The subsequent follow-up period was more than 6 years.
† The recovery period for this patient, P. K., was less than 8 years.

TABLE 4.—*Data in a Case of Chronic Glomerulonephritis* with Recovery in a Fifty-Six-Year-Old Man (P. K.)*

				Blood		Urine	
Date	Edema, Grade	Blood Pressure, Mm. Hg	Retinitis, Grade	Hemoglobin, Gm. per 100 Cc.	Urea, Mg. per 100 Cc.	Protein, Grade	Erythrocytes, Grade
1/ 5/38†	2	190/110	4	12.5	68	4	1
1/16/38	2	215/110	..	....	..	4	2
1/18/38	1‡	205/125	..	10.6	70	4	0
6/16/38	0	120/80	?	10.0	64	2	1
10/27/38	0	150/105	?	13.5	56	3	1
10/25/39§	0	135/110	0	14.2	48	2	1
4/28/43	0	140/90	0	....	..	0	0

* Onset of disease March, 1937.
† On 1/8/38 the serum protein level was 4.3 gm. per 100 cc.
‡ Patient's weight decreased 8 lb. (3.6 kg.) in 12 days.
§ On 10/27/39 the serum protein level was 6.4 gm. per 100 cc.

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[8] Murphy, F. D.; Warfield, L. M.; Grill, J., and Annis, E. R.: Lipoid Nephrosis: A Study of Nine Patients, with Special Reference to Those Observed Over a Long Period, Arch. Int. Med. **62**: 355-376 (Sept.) 1938.

[9] Rennie, J. B.: The Oedematous Syndrome of Nephritis with Special Reference to Prognosis, Quart J. Med. **16**: 21-31 (Jan.) 1947.

[10] Barness, L. A.; Moll, G. H., and Janeway, C. A.: Nephrotic Syndrome: I. Natural History of the Disease, Pediatrics **5**: 486-503 (March) 1950.

[11] Wooling, K. R.; Keith, N. M., and Edwards, J. E.: Chronic Glomerulonephritis: Report of a Case Followed from Onset to Termination During a Period of Nine Years, M. Clin. North America **35**: 1167-1183 (July) 1951.

series of 26 cases, the relatively long and favorable course of a decade or more has afforded a unique opportunity for the study of various factors and for appraisal of treatment. In 14 patients, the advent of diuresis led to a loss of 20 lb. (9.1 kg.) or more in weight, the range being 23 to 82 lb. (10.4 to 37.2 kg.). In 12 patients, the loss of weight varied from a few to 18 lb. (8.2 kg.). In patient P. M. (table 5) the loss of 75 lb. (34.0 kg.) during the diuretic period led to some interesting metabolic and therapeutic problems. At the termination of diuresis, the patient weighed 81½ lb. (37.0 kg.), and his appearance reminded one of the starving persons rescued from Germany at the end of World War II. Thus, in this patient, we have striking objective evidence of general wasting of the tissues of the body and from our laboratory study, chemical evidence of disturbances of the metabolism of water, mineral salts, protein, and fat (patient P. M., table 6). Farr and others have previously noted this wasting of the body tissues in the nephrotic syndrome. During the immediate recovery period, patient P. M. ate well and gained in weight without recurrence of edema. On subsequent visits to Rochester during the next 11 months, his weight and appearance were normal with exception of a trace of dependent edema. His renal function continued to be slightly impaired and the serum proteins were still decreased. For the next 13 years, until near the time of his death from uremia, the patient was free from edema and carried on his usual manual work. Surely our experience with this patient suggests further possibilities for the future investigation of metabolic problems in nephritic edema.

TABLE 5.—*Data in a Case of Chronic Glomerulonephritis with Excessive Edema* in a Thirty-Year-Old Man (P. M.)*

				Blood			
Date	Weight, Kg.	Blood Pressure, Mm. Hg	Edema, Grade	Hemoglobin, Gm. per 100 Cc.	Urea, Mg. per 100 Cc.	Plasma Cholesterol, Mg. per 100 Cc.	Urine Protein, Grade
5/../29	..	....	3	....	..	...	2
11/18/29	71	130/108	4	10.4	80	552	3
12/18/29	44	120/80	2	7.3	10	...	1
2/ 3/30	44.5	110/90	0	11.2	25	...	1
12/30/30†	63	115/85	1	12.6	50	725	4
10/20/33‡	59	125/90	0	15.9	22	327	3
7/ 6/44§	..	220/140	..	....	..	...	4

* The patient's normal weight was 62 kg.
† Serum protein 4.1 gm. per 100 cc.
‡ Urea clearance 67 cc.; serum protein 5.0 per 100 cc.
§ The patient died of uremia after a course of 15 years.

TABLE 6.—*Metabolic Changes in a Case of Chronic Glomerulonephritis with Excessive Edema (Patient P. M.)*

			Blood		
Date	Weight,* Kg.	Edema, Grade	Urea, Mg. per 100 Cc.	Serum Protein, Gm. per 100 Cc.	Plasma Cholesterol, Mg. per 100 Cc.
11/18/29	71.2	4	80	3.6	552
12/18/29	44.2	2	10	...	...
12/24/29	37.0	0	..	...	...
1/ 7/30	39.8	0	36	4.7	255
1/28/30	43.2	0	24	5.4	296
2/ 3/30	44.5	0	25	...	...

* The patient's estimated normal weight was 62.1 kg.

Since the recognition of renal edema by Bright, numerous cases have been reported in which there is a periodicity in its appearance. Addis has reported a series of these cases with recurring episodes of edema and observed that during the edema-free period there may be an absence of proteinuria and hypoproteinemia. We have observed seven such cases in the present series and recorded detailed findings in the urine and blood of patient E. R. (table 7). In this patient, three periods of edema were noted, the first being recorded in his previous history and the second, of a year's duration, in 1938. This was succeeded by a remission of a year and one-half. There then followed the third recurrence of edema, which persisted for four to six years. The edema receded in 1946, and there has been no recurrence up to the present time, a period of seven years. These and similar cases naturally raise many questions with regard to the mechanisms involved. Further study, for example, might give us an insight into the problems of proteinuria and alterations in the proteins and fats of the blood. The periodic occurrence of edema also warns the physician to consider it in the prognosis of the individual patient.

At this point a specific diagnostic problem should be considered. Daugherty and Baggenstoss[12] in 1950 reported a small series of cases characterized by glomerulonephritis, edema, and arthritis. This condition probably belongs to the general group of conditions of which lupus erythematosus is a type. During the nephrotic stage such cases are difficult to distinguish from many of the present series of cases, as we have learned, much to our sorrow. The importance of the recognition of these cases arises from the fact that prognosis up to this date has been very serious, with a rapid course leading to a fatal end.

TABLE 7.—*Data in a Case of Chronic Glomerulonephritis with Recurring Edema and Hypoproteinemia in a Patient (E. R.) Aged Thirty-Three*

Data in Period 2, of 1 Year, 1938

		Blood			Urine	
		Serum			Protein	
Stage of Period	Edema, Grade	Protein, Gm. per 100 Cc.	Albumin, Gm. per 100 Cc.	Plasma Cholesterol, Mg. per 100 Cc.	Grade	Daily, Gm.
Onset	3	4.0	2.2	792	4	..
Interim	1	3.2	...	...	4	..
End	0	7.5	...	...	0	..

Interval 1½ Years

Data in Period 3, of 4 to 6 Years, 1940-1946

Onset	3	3.9	2.0	...	4	..
Interim	2	3.0	1.6	536*	4†	38†
End	0	7.3	5.1	240	0	..

* Total lipoids 1.5 gm. per 100 cc.
† Concentration of protein 2.4 gm. per 100 cc.

The later course of chronic glomerulonephritis, after subsidence of edema, has generally been accepted to include a latent period of varying length, which is followed by a period of cardiovascular involvement and progressive uremia. Our case C. A.[11] gives a typical example of such a course. Addis in particular considered this course to be the rule. With more detailed observations during an extended follow-up period, as in this series, we have noted several exceptions. Our attention was drawn to the possible rapid development of diffuse arteriolar disease in 1939. Wagener and one of us (N. M. K.) at that time described the case of a young man, aged 17 years, in which the sequence of events, over a period of five years were as follows: (1) an initial period of six months, during which edema and proteinuria predominated; (2) a period of almost five years of good health, accompanied by proteinuria; and (3) a short terminal period of six weeks, characterized by severe hypertensive disease and renal insufficiency. We interpreted these terminal events as indicative of an acute diffuse arteriolar disease superimposed on a slowly contracting kidney with chronic glomerulonephritis. Necropsy confirmed this clinical conception. Since this experience we have observed the incidence of acute hypertensive episodes in several cases of chronic glomerulonephritis, not only in the terminal phase but at other times during its course. We have seen them subside without specific treatment (for example, patient P. K., table 4). Such experiences emphasize the fact that hypertension may be a reversible process during the course of chronic as well as acute glomerulonephritis.

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[12] Daugherty, G. W., and Baggenstoss, A. H.: Syndrome Characterized by Glomerulonephritis and Arthritis: Libman-Sacks Disease with Predominantly Renal Involvement, Arch. Int. Med. 85: 900-923 (June) 1950.

A different type of hypertensive disease developed in one patient (A. K.) of this series. Our records of her case extend over a period of 30 years. When she was 22 years of age, general anasarca, renal insufficiency, and hypertension developed, which after three months responded to hospital treatment; during hospitalization the patient lost 40 lb. (18.1 kg.). In the next seven years the patient appeared to be in normal health except for a persistent trace of protein in the urine. Eleven years later, or 19 years after the subsidence of her initial anasarca, hypertension was discovered for the second time. To all intents and purposes she has continued to have moderate, benign essential hypertension for the last 12 years, with her general health and renal function remaining satisfactory.

In our eight cases of chronic glomerulonephritis in which edema was minor in degree or absent throughout, the latent stage of the disease varied from a few to 20 years. Another patient has been in a latent phase for 22 years; at 53 years of age, she was healthy in every way, except for the presence of a trace of protein in the urine. Five patients passed into the commoner terminal phase of hypertensive disease and uremia.

In two patients essential hypertension developed without distinct renal insufficiency. One of these, patient S. H., later proved to be of exceptional interest and data concerning him were reported in detail by Mulmed, Baggenstoss, and Burchell in 1949. Briefly, his story was as follows. In April, 1926, when he was 9 years of age, acute glomerulonephritis developed. After subsidence of the acute stage, he continued to have a considerable amount of protein in the urine, but hypertension did not develop until 10 years later, in 1936. From that date until his admission to the Mayo Clinic, in May, 1946, hypertension and proteinuria were always present when he was medically examined. At our examination, 20 years after the onset of the disease, the patient was suffering from diffuse arteriolar disease with active retinitis, seen in cases of group 3 (table 8). Bilateral supradiaphragmatic and infradiaphragmatic sympathectomy was performed, and at the time of each operation a satisfactory exploration and biopsy of each kidney were made. The surgeon described them as grossly normal in size and shape. The histological picture of the kidneys was that observed in cases of essential hypertension of the benign type with no evidence of glomerulonephritis. The patient had a favorable immediate response to sympathectomy, with a lowering of blood pressure, especially when he stood upon his feet. During the next five years the patient continued to work, his blood pressure usually measuring systolic 160 to 165, diastolic 120 to 130 mm. Hg. There was no recurrence of the retinitis, and in spite of continued grade 2 proteinuria, his renal function otherwise remained normal.

Our attention was directed in 1944 to a distinctly different and infrequent course of events in chronic glomerulonephritis. In a series of three cases, the patients sought medical advice because of hypertensive cardiovascular disease of several years' duration.[13] Because of the failure of edema to disappear when the first patient was given routine treatment for myocardial failure, urinary and blood chemical studies were instituted, which revealed the presence of lipoid nephrotic features. In this patient the nephrotic syndrome later disappeared. The events recorded in these cases support the conception of Schroeder that some cases in which essential hypertension has developed are primarily cases of chronic glomerulonephritis.

TABLE 8.—*Data in a Case of Chronic Glomerulonephritis with Later Diffuse Arteriolar Disease with Hypertension In a Nine-Year-Old Boy*[*] *(S. H.)*

				Blood		Urine	
Date	Edema, Grade	Blood Pressure, Mm. Hg	Retinitis, Grade	Hemoglobin, Gm. per 100 Cc.	Urea, Mg. per 100 Cc.	Protein, Grade	Erythrocytes, Grade
4/../26	1	120/70	..	....	140	3	3
../../28	0	......	..	....	...	3	1
../../35	0	......	..	....	...	3	0
../../36	0	210/120	..	....	...	..	..
5/27/46	0	215/155	3	15.3	36[†]	2	0
7/18/46[‡]	0	120/90	1	11.2	32[§]	2	0
10/10/46	0	150/112	0	11.9	34[¶]	2	1
8/30/51	0	164/128	0	14.5	18	2	0

[*] The case was reported by Mulmed, Baggenstoss, and Burchell.
[†] Urea clearance (standard) 40 cc. per minute.
[‡] On 6/24/46 and 7/6/46 extensive supradiaphragmatic and infradiaphragmatic sympathectomies were done, on the right and left sides, respectively.
[§] Urea clearance (maximal) 139 cc. per minute.
[¶] Urea clearance (standard) 55 cc. per minute.

Two important developments have followed the application of renal functional studies to clinical medicine. The first is of diagnostic significance. By aid of these studies, renal insufficiency has been discovered in many more patients and in a greater variety of disease conditions than before their use was instituted. Diagnosis of an obscure uremia, either acute or chronic, has first been made possible by the simple estimation of the concentration of urea or creatinine in the blood. In the second place, renal functional studies are of prognostic value during the course of the nephrotic syndrome, as mentioned previously, and also during other phases of chronic nephritis. Those of us whose work over the years has included the care of patients with chronic uremia recall how often we were surprised at the length of time some of these patients could carry on comfortably.[6a] Such patients reveal a remarkable adaptation of their tissues to very abnormal metabolic conditions.

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[13] Daugherty, G. W.; Baggenstoss, A. H., and Keith, N. M.: Atypical Chronic Glomerulonephritis: Report of Cases, Minnesota Med. 29: 1218-1229 (Dec.) 1946.

COMMENT

A review of the natural history of nephritis in this study reveals a variety of courses. The long duration of a satisfactory existence in some of our patients made the follow-up problem much less depressing than anticipated. Acute glomerulonephritis is frequently a self-limiting disease, seldom recurs, and does not seem necessarily to increase the susceptibility of the patient to subsequent chronic cardiovascular lesions. Recovery from the syndrome of chronic lipoid nephrosis takes place in a small but significant number of cases. A rare patient with both the edematous and dry type of chronic glomerulonephritis may recover. Addis' experience with late recovery in acute glomerulonephritis is encouraging. In 1931 he reported data on a few patients who recovered after the disease had persisted for five years; in 1948 he lengthened this possible period to 10 years[6b] (table 9). Our own results and those of others support the viewpoint that lipoid nephrosis and chronic glomerulonephritis may run a protracted course of one to several decades (table 10). The problem of edema is still a stubborn one and has perhaps stimulated as much clinical investigation as any one phase of the disease. Nevertheless the proper use of diets, particularly the control of the intake of sodium chloride and protein, the intelligent use of diuretics and expanders of plasma, the induction of peritoneal and pleural paracenteses, and lately the introduction of cation exchange resins and of corticotropin and cortisone have all proved of therapeutic value. Further study of the antidiuretic substances (the sodium-retaining corticoids of human urine) isolated from the urine of these patients by Luetscher and Deming[14] should offer fruitful results.

TABLE 9.—*Time Between Onset and Healing of Glomerular Nephritis**

Duration of Disease, *Years*	No. of *Cases*	Percentage *of Total*
0.5	21	23.9
1.0	27	30.7
1.5	12	13.6
2.0	12	13.6
3.0	5	5.7
4.0	2	2.3
5.0	2	2.3
6.0	2	2.3
6.0 to 10.0	5	5.7

* Addis.[6b]

Study of the occurrence of hypertension during the course of glomerulonephritis began with Bright and has continued unabated up to the present time. Bright's suggestion that hypertension might exist in chronic diffuse nephritis arose from his studies of the heart when he examined the morbid appearances in 100 of his cases. The chief structural changes in the hearts in 52 cases consisted chiefly of hypertrophy. After those hearts with disease of the cardiac valves and coats of the aorta we omitted, there remained 22 cases of marked hypertroph generally affecting the left ventricle. This led him to lo for some less local cause for the unusual efforts to whi *the heart had been impelled.* He considered the t readiest solutions to be either that the altered quality the blood affords unwonted stimulus to the heart imme ately or that it so affects the minute and capillary circ lation as to render greater action necessary to force t blood through the distant subdivisions of the vascul system.

It has long been accepted that there is an acute and chronic type of hypertension. The former type is observ often in acute glomerulonephritis, but it is now recogniz as also occurring during the course of chronic glomerul nephritis. It may subside and may recur. A serious fo is frequently associated with the terminal uremic pictu Therapeutic trial of surgical sympathectomy has reveal amelioration in a few patients, as shown by Persike a co-workers[15] and in our patient S. H., reported Mulmed and associates. Benefit has also followed the u of hexamethonium compounds. Since their hypotensi action is due to effects on the sympathetic ganglia, the therapeutic effectiveness again emphasizes the possib role played by the sympathetic nervous system in ren hypertension. A long-continued benign hypertension also observed in chronic glomerulonephritis as in o patients A. K. and S. H. The variations of hypertensi in chronic glomerulonephritis, in regard to time of ons course, and severity, raise speculation as to its etiolo and suggest multiple causative factors.

The present follow-up study emphasizes anew t astuteness of Bright in recognizing the important inte relationships between the occurrence of edema, cardi vascular alterations, certain metabolic phenomena, a renal dysfunction. We think it is of some interest that t significance of these same factors has been pointed out several observers in the glomerulonephritis associate with toxemia of pregnancy. Our experience in this stud has increased our admiration for Bright's basic contributions to the various problems that may arise during the course of glomerulonephritis. Subsequent advances in our knowledge regarding the disease are largely the result of physiological, biochemical, bacteriological and pathological investigations, instituted during the various phases, first described 115 years ago.

TABLE 10.—*Duration of Persistent Chronic Glomerulonephri in Thirty-Four Cases Including Edematous and Dry Types*

Duration, Years	No. of Cases	Mean Age at Onset, Yr.	Males	Femal
Patients Living Last Report				
11-15	6	33.7	4	2
15-20	3	33.2	2	1
20-25	3	31.2	2	1
25-30	3	15.5	1	2
30 +	1	22.5	0	1
Total	16	29.0	9	7
Patients Dead Last Report				
9-15	9	29.6	7	2
15-20	6	32.8	3	3
20-25	2	35.0	1	1
41	1	17.5	0	1
Total	18	30.6	11	7

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14. Luetscher, J. A., Jr., and Deming, Q. B.: Treatment of Nephrosis with Cortisone, J. Clin. Invest. 29: 1576-1587 (Dec.) 1950.

15. Persike, E. C., and others: Surgical Treatment for Hypertensive Complications of Advanced Renal Disease, Arch. Int. Med. 83: 348-354 (March) 1949.

SUMMARY

The outlook for the patient who has acute glomerulonephritis is usually good, in regard to both recovery and future health. In contrast, the outlook in lipoid nephrosis and chronic glomerulonephritis is often serious. Our long-term study reveals that a rare patient with either of these diseases recovers, and a considerable number may have a satisfactory course for one or more decades. The application of modern renal function tests has proved of distinct help in their management. The present therapeutic measures available to combat edema appear to be more effective than those employed in the past, and therapy directed to the sympathetic nervous system offers promise of alleviation of hypertension.

CLINICAL APPLICATION OF CURRENT TESTS OF RENAL FUNCTION

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Recent advances in renal physiology and methodology make it possible to assess accurately and quantitatively the discrete excretory functions of the kidney.[1] The functions subject to quantitative measurement are the rate of glomerular filtration, renal blood flow, maximal tubular excretory capacity, and maximal tubular reabsorptive capacity.

The rate of glomerular filtration is measured by means of the clearance of inulin, i. e., the amount excreted per minute divided by the plasma concentration represented by the clearance formula UV/P. Since inulin is filtered at the glomerulus and is neither reabsorbed nor excreted by the tubules, the simple clearance calculation indicates the amount of filtrate formed. The mean normal rate of glomerular filtration is 130 cc. per minute.

The renal blood flow is measured by means of the clearance of *p*-aminohippurate. Since this substance is completely removed from the renal arterial blood during one circulation through the kidneys, its clearance is identical with the rate at which the blood itself is circulated through the kidneys. The mean normal value for renal blood flow is 1,200 cc. per minute.

The maximal tubular excretory capacity represents the actual amount of functioning tubular tissue. When the plasma concentration of *p*-aminohippurate (or iodopyracet [Diodrast]) is raised above the critical level, the tubular excretory mechanism becomes saturated and excretes this substance at a maximal rate. It is designated as Tm, and the mean normal value for *p*-aminohippurate is about 80 mg. per minute.

The maximal tubular reaborptive capacity is an index of the reabsorptive capacity of those tubules supplied with glomerular filtrate. As the plasma glucose level is raised by constant infusion, a point is reached at which the tubular reabsorption of glucose proceeds at a maximal rate; if the plasma glucose is further elevated, glucose filtered in excess of this maximal rate of reabsorption passes into the urine. The mean normal value for the maximal reabsorptive capacity of the tubules as measured by glucose reabsorption is 400 mg. per minute.

These methods have not as yet been sufficiently simplified to make them practicable for routine use. They are, however, of inestimable value when a precise quantitative estimate of individual renal excretory function is desirable. In the practical and routine application of kidney function tests, we are forced by expediency to use qualitative and semiquantitative measurements. This will be so until quantitative measurements of the discrete renal functions are feasible. The tests commonly used now are urea clearance, blood urea, concentrating capacity, dye excretion, and pyelography.

UREA CLEARANCE

Urea is filtered through the glomerulus at the same rate as inulin, but it is reabsorbed by the tubules to a significant extent. The value of the urea clearance, therefore, must be lower than that of the inulin clearance; the difference is quantitatively related to the amount of urea reabsorbed. Data on the absolute urea clearance (fig. 1) show that there is a progressive increase in the urea clearance as the urine flow increases up to 1.5 cc. per minute; the inulin clearance is not influenced by the rate of urine flow. The effect of urine flow is, however, slight when it is between 1.5 and 12 cc. per minute, and the effect of urine flow in this range on the urea clearance may be disregarded in utilizing the clearance of urea as an index of renal function. Urea clearances obtained at urine flows below 1.5 cc. per minute are depressed by factors such as dehydration and lowered filtration rate, which result in values that do not represent the true rate at which the kidneys are capable of clearing urea from the blood and that are, therefore, not acceptable as an index or renal function. When the urine flow is between 1.5 and 12 cc. per minute, the mean value for urea clearance is about 70 cc. per minute per 1.73 square meters.

Since the urea clearance varies closely with the rate of glomerular filtration, both are decreased by the same factors, namely, dynamic and reversible changes in intraglomerular pressure induced by changes in the tone of the afferent and efferent arterioles, organic and irreversible obliteration of the glomerular bed, organic and irreversible changes in the preglomerular arteries and arterioles, and congestive heart failure. The determination of urea clearance should be made when the urine flow is either constant or falling, since, during a period of increasing diuresis, exaggerated and falsely high urea clearance values may be obtained.

The urea clearance, then, is an expression of the combined excretory functions of filtration and reabsorption. In the normal and under conditions of high urine flow,

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Read in the Symposium on Recent Advances in Nephritis before the Section on Experimental Medicine and Therapeutics at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

[1] Smith, H. W.: The Kidney: Structure and Function in Health and Disease, New York, Oxford University Press, 1951. Bradley, S. E.: The Pathologic Physiology of Uremia in Chronic Bright's Disease, American Lecture Series, Springfield, Ill., Charles C Thomas, Publisher, 1948.

the urea clearance is 65% of the simultaneously determinded inulin clearance indicating that, in its passage down the tubules, 35% of the filtered urea is reabsorbed. In advanced renal insufficiency, this figure may increase to 90% and indicate that, in this circumstance only 10% of the filtered urea is reabsorbed. This fact leads to the conclusion that reduction in urea clearance and consequent increase in blood urea in renal disease are due to a diminished rate of glomerular filtration of urea and not to increase tubular reabsorption. In spite of its complex mechanism of excretion, the clearance of urea in renal disease may be used for clinical purposes as analogous to measurement of the filtration rate.

Since the clearance technique for any substance is largely dependent on accurate timing and complete collection of urine, specimens must be collected by catheterization of the bladder. It is sufficient to collect two 30 minute urine specimens, with a single blood sample at the midpoint.

BLOOD UREA

If nitrogen and water balance are constant, blood urea concentration varies inversely with the urea clearance. With diminution in the urea clearance, there is a proportional increase in the level of the blood urea. In figure 2 is presented evidence that in both hypertensive disease and diffuse glomerulonephritis there is an inverse linear relationship between the blood urea concentration and the urea clearance. It will be noted that, from the very first decrease in the rate of urea clearance, there is an accompanying increase in the level of the blood urea.

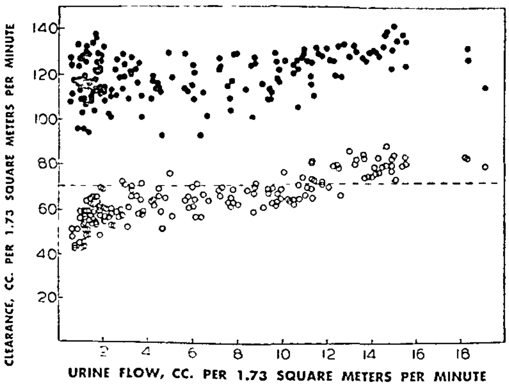

Fig. 1.—186 simultaneous inulin and urea observations in normal persons made during falling or constant urine flows. Dotted horizontal line represents mean plasma urea clearance in normal persons (70.5 cc. per minute); black dots represent inulin clearance; white dots represent urea clearance.

It cannot be accepted that the blood urea concentration rises above "normal" value only after the urea clearance has fallen to 40% of its normal value, suggesting that 60% of the renal parenchyma must be destroyed before there is an abnormal accumulation of urea in the blood. In nitrogen equilibrium, the blood urea rises from the first reduction in the urea clearance. Basis for misconception on this point is found in the following facts. (*a*) The accepted "normal" upper figure for the blood urea is 40 mg. per 100 cc.; actually the average value of a normal subject on ordinary protein diet and water intake is between 15 and 20 mg. per 100 cc. If this fact is ignored, significant minimal increase in the level of the blood urea may be overlooked. (*b*) Variations in nitrogen and water balance may significantly vary the level of the blood urea independently of the rate of urea clearance. It is possible to alter significantly the level of the blood urea by varying the protein intake; the value of the urea clearance remains unchanged (fig. 3). Since patients with renal disease frequently have disturbances in nitrogen and water balance occasioned by anorexia, vomiting, and diarrhea, it may be expected that the level of blood urea will show great variations. These variations may obscure the true relationship between rate of urea clearance and level of blood urea. (*c*) Since the urea clearance is directly related to the rate of glomerular filtration, the same factors that cause variations in the filtration rate vary the rate of the clearance of urea. The blood urea concentration may further increase as a result of decreased urea clearance occasioned by the onset of congestive heart failure in the course of renal disease. Thus, the acceptance of 40 mg. per 100 cc. as the upper limit of normal blood urea concentration and the great variations that occur in its level as a result of disturbances such as nitrogen and water imbalance and congestive heart failure have obscured the true physiological relationship between the blood urea and the urea clearance.

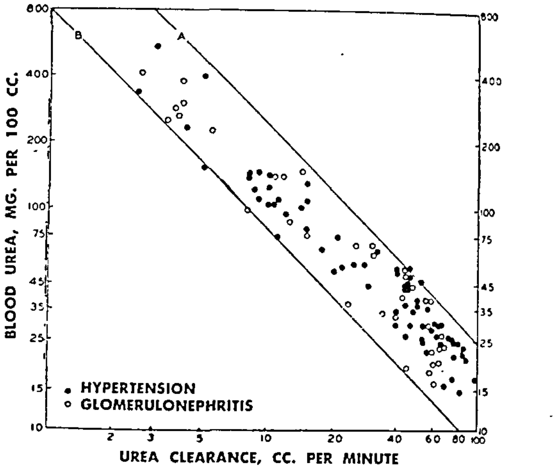

Fig. 2.—Relationship of blood urea concentration to rate of urea clearance in 103 observations in patients with hypertension and glomerulonephritis (urine flows above 1.5 cc. per minute).

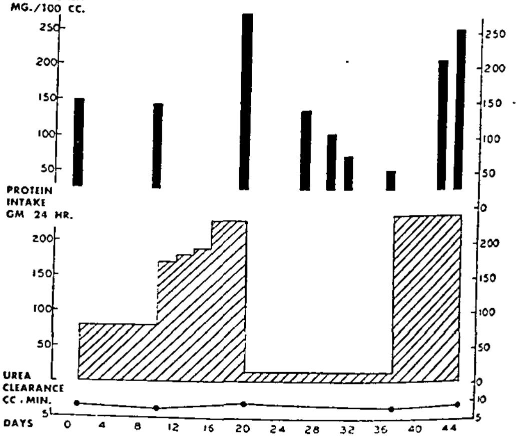

Fig. 3.—Variations in the concentration of blood urea induced by changing the protein intake in a patient with advanced renal insufficiency; urea clearance and 24 hour *urine output remained constant* throughout period of observation.

It is difficult to place certain prognostic significance on the level of the blood urea alone. Since the level of blood urea varies with changes in the rate of glomerular filtration, nitrogen balance, and water balance, all of which may vary independently of the renal disease, it is hazardous to attempt to use the level of the blood urea as an aid in evaluating the extent of renal functional impairment unless its abnormal accumulation is known to be solely the result of functional changes resulting from the intrinsic renal disease. Even if extrarenal factors are reasonably constant, the prognostic significance of the actual level of blood urea concentration depends on whether the intrinsic renal lesion is acute and reversible or chronic and irreversible.

MAXIMAL CONCENTRATING CAPACITY

The measure of maximal concentrating capacity is an index of the kidney's ability to excrete the maximum amount of urinary solids in the smallest amount of water. Normally the kidney is able to excrete urine containing varying amounts of solids as concentrated urine hypertonic to the blood or dilute urine hypotonic to the blood. The total amount of urinary solids can be measured by freezing point depression, surface tension, refractometry, or, for clinical purposes, the specific gravity. The specific gravity of the urine is an additive function of the concentration of its individual solutes. The urinometer measures the specific gravity of the urine and is a simple and adequate method for determining the concentration of the total urinary solids. If a large portion of the renal parenchyma is destroyed by disease, the kidneys lose their ability to vary the amount of solids in the urine, and the maximal concentrating power is decreased; a point is finally reached at which all urine excreted contains a relatively constant amount of total solids. When concentrating power has been lost, the urinary specific gravity is fixed at about 1.010. Normal kidneys can elaborate a urine with a specific gravity of at least 1.024.

Throughout the greater part of the course of hypertensive disease, the water and electrolyte reabsorptive capacity of the tubules is unimpaired, and, consequently, the maximal concentrating capacity of the kidneys is normal. It is not until late in the disease that the maximal specific gravity obtainable falls to values below 1.024; it finally becomes fixed at about 1.010. The reduction in maximal concentrating capacity late in the disease is due to loss of functioning nephrons. The mechanisms accounting for the invariable fixation of specific gravity at the level of about 1.010 are unknown.

Urinary specific gravities of 1.024 or higher may be observed in patients in whom the glomerular filtration rate has been significantly reduced. This dissociation of functions indicates the hazard involved in depending on a single test. When fixation of specific gravity at about 1.010 occurs in the terminal phase, it may persist for months or years and, thus, will not aid in evaluating further renal functional impairment in the course of the renal disease. In this same period, progressive decrease in the rate of glomerular filtration continues to serve as evidence of further functional impairment. In the rapidly accelerated phase of hypertensive disease, the normal concentrating capacity of the kidneys may be maintained to within a few weeks of death from uremia. This same phenomenon of dissociation between normal concentrating capacity and marked decrease in glomerular filtration with elevation of the blood urea concentration is observed in other rapidly progressive renal lesions, such as at the onset of acute diffuse glomerulonephritis. The reverse is frequently encountered for a period of months after clinical recovery from acute diffuse glomerulonephritis when complete loss of concentrating capacity may be associated with normal glomerular filtration rate and normal blood urea concentration.

In addition to its occasional undependability in rapidly progressive renal disease and after recovery from acute nephritis, the maximal concentrating capacity of the kidneys has limited value as a guide to the progressive renal impairment that characterizes the evolution of the hypertensive kidney. The first reason is that this capacity is unimpaired during the greater part of the course of hypertensive disease, despite the fact that loss of renal function can be demonstrated by reduction in the rate of glomerular filtration, effective renal blood flow, and maximal tubular excretory capacity. Secondly, its usefulness is limited by the fact that, when fixation of specific gravity has occurred, the maximal concentrating capacity can give no further information, while quantitative measurements of the discrete excretory functions demonstrate continuing renal functional impairment. These observations reemphasize the importance of multiple tests in evaluation of the multiple excretory functions of the kidneys.

The ability of the kidneys to form dilute urine with specific gravity of 1.001 to 1.004 is directly related to the rate of water excretion. In hypertensive disease, water excretion by the kidneys is unimpaired until late in the disease; the maximal concentrating power is decreased before the dilution is impaired. It is not uncommon for the maximal specific gravity to be reduced to about 1.010 at a time when the kidneys are still able to elaborate a dilute urine with a specific gravity of 1.001 to 1.004. Diluting capacity is finally lost and the specific gravity becomes fixed at 1.010.

It is probable that the loss of diluting power occurring in the terminal stage of hypertensive disease is related to marked decrease in the number of functioning nephrons. The complexity of those extrarenal factors, which affect the rate of the renal excretion of water, is such that the significance of variations in diluting power is difficult to interpret. Also, during recovery from acute diffuse glomerulonephritis, diluting power may return promptly to normal, while complete loss of concentrating power may persist for many subsequent months. The diluting power of the kidneys is, therefore, of little aid in the evaluation of the renal functional status.

PHENOLSULFONPHTHALEIN EXCRETORY CAPACITY

The capacity of the kidneys to excrete phenolsulfonphthalein (phenol red) is measured by determining the rate of excretion in a fixed period of time or the rate of its clearance from the blood. About 94% of injected phenolsulfonphthalein is removed from the blood by tubular excretion. Like iodopyracet and *p*-aminohippurate, although not to the same extent, a large percentage of the phenolsulfonphthalein is removed from the blood in one circulation through the kidneys. This clearance, therefore, can be used to indicate relative variation in the effective renal blood flow. The normal value for phenolsulfonphthalein clearance is about 400 cc. per minute.

Phenolsulfonphthalein excretory capacity of the kidneys in renal disease is affected by specific impairment of the tubules that excrete dye and decrease in effective renal blood flow. The phenolsulfonphthalein clearance exhibits the same trend as the iodopyracet or *p*-aminohippurate clearance. The markedly decreased clearance observed during the terminal stages of renal disease represents the combined effect of decreased renal blood flow and the presence of numerous tubules that have lost their phenolsulfonphthalein excretory power.

The rate of excretion of dye in a fixed period of time is used more commonly as a measure of tubular excretion than is its clearance from the blood. Since the introduction of this test of renal function, the generally accepted method has been the estimation of the dye excreted in the urine in one and two hours after either intravenous or intramuscular injection. Determination of the percentage of phenolsulfonphthalein excreted in a fixed period of time is not as helpful as the estimation of its clearance from the blood because, by the accepted technique of measuring one and two hour urinary excretion, normal results may be obtained even when renal functional impairment exists. The probable explanation for this lack of sensitivity is related to the method used for the collection of phenolsulfonphthalein excreted in one and two hour periods. The intravenous or intramuscular administration of 6 mg. of dye does not raise or maintain plasma levels high enough to reach maximal tubular excretory capacity and, therefore, will not indicate early impairment of function. Actually, the administration of this amount of dye results in plasma levels at which a larger percentage of the dye is removed by the normal kidney in the first 15 to 20 minutes. When one and two hour collection periods are used, the kidneys, despite reduction in the renal blood flow or in their capacity to excrete the dye, are given the opportunity repeatedly to clear the blood of phenolsulfonphthalein. For this reason, a normal value for total two hour excretion may be obtained despite renal functional impairment, but it would differ from the normal in that the rate of excretion in the second hour would quantitatively approach the amount excreted in the first hour, whereas normal kidneys excrete the larger quantity in the first hour.

Form for Recording the Results of the Composite Kidney Function Tests

Name.................................. Age...... Sex...... Date............

Diagnosis..................... Weight...... Height...... Surface area......

Specimen	1	2	3	4
Time	8 p.m.- 8 a.m.	9:00 a.m.	10:00 a.m.	11:00 a.m.
Volume, cc.				
Maximal Concentrating Capacity Specific gravity			×	×
Glomerular Filtration Inulin clearance, cc. per minute	×	×		×
Renal Plasma Flow Para-aminohippuric acid clearance, cc. per minute	×	×		×
Max P mg. per minute	×	×	×	
Urinalysis				
Protein	×		×	×
Red blood cells	×		×	×
White blood cells	×		×	×
Casts	×		×	×

Blood urea, mg. per 100 cc.
Remarks

We have used the fractional method of dye excretion by utilizing three 20 minute urine collection periods. The urine is collected by urethral catheterization to insure complete emptying of the bladder, for in a 20 minute collection period incomplete bladder emptying can introduce a source of error. The average rate of excretion in 25 normal persons was 30% in the first 20 minutes and 55% in the first hour.[2]

When phenolsulfonphthalein is used to measure renal tubular excretion, the method of choice is the dye clearance. For routine clinical use, however, the excretion rate in a fixed period of time is adequate, and the fractional technique is preferable to hourly urine collection periods.

INFLUENCE OF SPONTANEOUS VARIATIONS IN URINE FLOW ON INTERPRETATION OF UNILATERAL RENAL FUNCTION

It has been observed that the rate of reabsorption of water by the tubules can vary at the same moment in the separate kidneys in normal persons and in patients with renal disease despite the fact that the kidneys have equal functional capacities. It is possible, therefore, to have different rates of urine flow at the same moment, and, as a result, the concentration of total solids or of specific substance can vary in the urines obtained simultaneously from the two equally efficient kidneys. Inequality in the urine flow from the two kidneys may lead to misinterpretation of comparative excretory tests of renal function. The concentration of urea, phenolsulfonphthalein, or indigo carmine may differ in the urine sample obtained simultaneously from two kidneys with equal function; variations are related to differences in urine flow rather than to unilateral functional impairment.

Differences in urine flow from the two kidneys can also account for significant variations in the appearance time of intravenously administered dye (phenolsulfonphthalein or indigo carmine). There is a large dead space in the collecting tubules, pelves and ureters, and, if the rate of urine flow is significantly lower in one kidney, the time necessary for urine-containing dye to traverse this dead space will be comparatively longer; the appearance time of the dye will vary inversely with the rate of urine flow.

PYELOGRAPHY

The ability of the kidneys to excrete water at different rates has particular significance when related to the interpretation of intravenous pyelography. Differences in the urinary concention of iodopyracet or any substance

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2. Goldring, W., and Chasis, H.: Hypertension and Hypertensive Disease, New York, the Commonwealth Fund, 1944.

used as a contrast medium may be referable solely to differences in the urine flow. This difference in concentration of the contrast medium will result in differences in intensities of roentgenologic shadows. Significant variations have been noted in the relative densities of pyelographic shadows in patients studied with kidneys of equal functional capacities. In these instances, a false conclusion might be drawn that the kidney excreting the more dilute urine and consequently producing the more poorly defined shadow was functionally inferior to the contralateral kidney, when, as a matter of fact, renal functional impairment when measured by the precise quantitative tests described was demonstrated to have progressed to the same extent in both kidneys.[2]

The rate of reabsorption of water by the tubules and hence the rate of urine flow may vary markedly in two kidneys of equal functional capacity. Excretory tests comparing the functions of the two kidneys should, therefore, be evaluated with caution for inequality in urine flow of itself can account for variations in urinary specific gravity, urea concentration, appearance time and relative concentration of dyes, and in the roentgen shadow in excretory pyelography.

COMPOSITE KIDNEY FUNCTION TEST

An ideal assessment of the various excretory functions of the kidneys can best be obtained from a composite test (see table). This complete assessment is especially valuable since, under some circumstances, the discrete functions of the kidneys may vary independently of each other. The composite test includes urinary specific gravity after a period of dehydration to measure reabsorptive capacity of the tubules, inulin clearance to indicate the rate of glomerular filtration, *p*-aminohippurate clearance to measure of effective renal blood flow, maximal rate of *p*-aminohippurate excretion to measure maximal tubular excretory capacity, the blood urea concentration, and chemical and microscopic examination of the urine. Preparation of the patient for this test as well as methodology have been described in detail elsewhere.[2]

In cases in which it is not feasible to apply the relatively difficult techniques suggested, comparable information may be obtained by omitting the measurement of maximal tubular excretory capacity and by substituting the urea clearance (or endogenous creatinine) for the inulin clearance and by substituting the fractional phenolsulfonphthalein excretion for the measurement of the effective renal blood flow.

SUMMARY AND CONCLUSIONS

The value and limitations of various kidney function tests are discussed. The ideal measurements involve quantitative estimates of the rate of glomerular filtration, effective renal blood flow, and maximal tubular excretory capacity. For this purpose a composite test is suggested. This composite test may be simplified for clinical use if the more involved techniques are not feasible. This simplification utilizes the maximal urinary specific gravity after a period of dehydration as a measure of tubular reabsorptive capacity, the urea clearance (or endogenous creatinine clearance) and blood urea concentration as an approximation of the rate of glomerular filtration, and the fractional excretion of phenolsulfonphthalein as a measure of tubular excretory capacity.

In view of the multiplicity of renal excretory functions and the fact that in renal disease these may vary independently in each kidney, it is evident that no single test is adequate for complete assessment of the over-all functional capacity of the kidneys.

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SURGICAL MANAGEMENT OF ULCERATIVE COLITIS

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and
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Noteworthy progress in the therapeutic approach to chronic ulcerative colitis is rapidly being achieved in the field of surgery. The general practitioner, internist, gastroenterologist, and psychiatrist alike are viewing surgical intervention with increasing assurance, and less and less frequently are seriously ill patients reaching the operating table too late for curative treatment. This fact is self-evident when one examines the remarkable fall in surgical mortalities in ulcerative colitis during the past decade as compared with previous decades. A no less significant observation is the fall in the incidence of emergency ileostomies. By virtue of awakened interest and cooperation between all fields of therapy, surgical measures are well planned and it is common to see the successful completion of total colectomy with cure of the disease brought about in two operative stages or less.

In our series of 331 patients with chronic ulcerative colitis, 81, or 24.5%, have undergone surgical intervention. The post operative mortality is 5, or 3.4%, in 137 operations performed. Four of the mortalities were the result of emergency ileostomies undertaken in almost moribund patients prior to 1946. Of particular interest is the fact that in the last five years it has been necessary to perform emergency loop ileostomies in only two patients. The remaining patients of our surgical group in this period have reached us in time for intensive whole blood transfusions, and antibiotic and electrolyte administration prior to operation. Preoperative preparation has been managed with the cooperation of an internist in all cases and often with the supplemental opinions of a gastroenterologist and a psychiatrist. With this coordinated plan of action it has been possible to perform ileostomy and colectomy in one stage in a majority of

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patients. There have been no postoperative mortalities in this group, and convalescence has been significantly shortened.

SURGICAL INTERVENTION IN CHRONIC ULCERATIVE COLITIS

All of us are aware of the lifesaving role surgery plays in the patient with intractable ulcerative colitis who is acutely ill and in a toxic state. The indication for surgery in these persons is at once apparent when other remedies fail. It is not this phase of the disease, however, that we are concerned with here, it is rather the so-called borderline patient who experiences remissions and exacerbations and, while at times is very ill, at other times seems to be able to carry on with his occupation. This is the commoner form of chronic ulcerative colitis, and in such persons we do not find the classical indications for operation such as perforation (or impending perforation), hemorrhage, obstruction, abscesses, fistulas, progressive toxemia, and severe nutritional and electrolyte deficiencies. In this chronically ill patient we must carefully balance the advantages to be gained by surgery against the risk of operation and the almost certain institution of a permanent ileostomy.

The greatest single benefit to be achieved by colectomy is the cure of the disease. To the patient this means freedom from episodes of incapacitating diarrhea or dysentery, the termination of arthritic symptoms, a cure of chronic annoying anorectal disorders such as recurring fissures, fistulas, stenosis, proctitis, and others, a curbing of thromboembolic phenomena, a cessation in progressive degenerative liver and kidney changes, and the prevention of primary cancer in the rectum and colon by the removal of a precancerous bowel.

CARCINOMA FOLLOWING CHRONIC ULCERATIVE COLITIS

Despite a preponderance of evidence to the contrary, there are still wishful thinkers who would attribute the incidence of carcinoma in chronic ulcerative colitis to other conditions. Otani and Snapper[1] would lead us to believe that (1) multiple familial polyposis accompanying ulcerative colitis is an underlying etiological factor, (2) adenomatous polyps coexistent with chronic ulcerative colitis undergo malignant changes, or (3) ulcerative colitis is secondary to a stenosing malignant lesion. Our own experience has not supported these assumptions. Each of the possibilities named present distinct characteristics not to be confused with carcinoma arising from chronic ulcerative colitis. In our series of 45 colectomies there were five patients who had large bowel carcinomas, an incidence of 11.1%. In four patients the lesions were unsuspected preoperatively. In no patient were there coexistent adenomatous polyps, familial histories of cancer of polyposis, or diagnoses of chronic ulcerative colitis that did not antedate the discovery of cancer by consid able lapses of time. In only one patient was the hist of ulcerative colitis less than five years in duration. three patients the disease had been present over a per of 15 years or more. In each extirpated colon and rect the carcinomatous lesions resembled one another were not characteristic of the usual carcinomas seen a ing from adenomatous polyps. Invasion of the s mucosa and muscularis was extensive, and the lesi were of a highly undifferentiated type. In two patie metastasis was widespread. For comparison, a pati with familial polyposis (not included in this series) ulcerative colitis of two years' duration was selected. this patient's excised colon, ulceration was widespre with destruction of mucous membrane, but the ade matous polyps were distinct, easily identified, and hi logically differentiated from inflammatory polyps. Th carcinomas were present, and numerous polyps presen atypical changes.

Counsell and Dukes[2] found an incidence of 11. carcinoma in a series of 63 patients undergoing surg for ulcerative colitis. They conclude that chronic ulce tive colitis predisposes to carcinoma, and they feel the extent of this predisposition has been underestima because of inadequate follow-up of patients with ulce tive colitis and because of clinical difficulties in diagno They point out that carcinoma following chronic ulce tive colitis usually grows rapidly and metastasizes ea "It may cause no recognizable surface tumor or ulcer only a diffuse stricture resulting from intramural spr of cancer." Shands, Dockerty, and Bargen[3] describe striking evidence of multicentricity in 19 of 40 patie with adenocarcinoma occurring in chronic ulcera colitis. This suggests that the origin of these second adenocarcinomas is in scattered foci within the muco

When cancer occurs in patients with chronic ulcera colitis, it characteristically develops in late adolesce or early adulthood, and exacerbations are experien intermittently for periods of 10 years or more. Four our five patients fit into this category. In each, can resulted before the age of 50 years. Kiefer and his as ciates[4] write, "A person who acquires ulcerative col in the second decade of life and continues to suffer fr active disease until he is 30 faces a real hazard in possi malignant degeneration." Lyons and Garlock,[5] in th series of surgical patients having the disease for over years, report a 36% incidence of carcinoma. Of 16 tients with ulcerative colitis involving the rectum for o 12 years, in 7, or 43%, carcinoma developed.

Pseudopolyposis is not an uncommon occurrence advanced ulcerative colitis. In our practice we consid it an indication for colectomy. Our reasoning is based the finding of literally hundreds of inflammatory poly in each of the colons of the five patients in our surgic group who were discovered to have rectal or colon cancers complicating their disease. Shands, Docker and Bargen[3] report 19 cases of pseudopolyposis in series of 40 specimens of ulcerated large bowel where carcinomatous change had taken place. In their serie however, histopathological evidence of multicentricity the adenocarcinomas was present in 21 specimens, a of these, 16, or 76.2%. were accompanied by pseud polyposis. The development of inflammatory polyps is a late manifestation that usually takes place after the disorder has been present for six years [6] or more. It is typically found in the healing bowel that is undergoing remission,[7] and this process of healing and remission, with later exacerbation and repetition of the cycle, is the usual history of events in those patients in whom cancer develops. Inflammatory polyps may disappear in many of these patients with long periods of remission,[8] and without doubt it is in these persons that considerable danger exists, especially when the disease has been present for 10 years or more.

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[1] Otani, S., and Snapper, I.: On the Incidence of Carcinoma in Chronic Ulcerative Colitis, J. Mt. Sinai Hosp. 19:275, 1952.

[2] Counsell, P. B., and Dukes, C. E.: The Association of Chronic Ulcerative Colitis and Carcinoma of the Rectum and Colon, Brit. J. Surg. 39:485, 1952.

[3] Shands, W. C.; Dockerty, M. B., and Bargen, J. A.: Adenocarcinoma of the Large Intestine Associated with Chronic Ulcerative Colitis, Clinical and Pathologic Features of 73 Cases, Surg., Gynec. & Obst. 94:302, 1952.

[4] Kiefer, E. D.; Eytinge, E. J., and Johnson, A. C.: Malignant Degeneration in Chronic Ulcerative Colitis, Gastroenterology 19:51, 1951.

[5] Lyons, A. S., and Garlock, J. H.: The Relationship of Chronic Ulcerative Colitis to Carcinoma, Gastroenterology 18:170, 1951.

It would then seem imperative that patients who have had recurring exacerbations of chronic ulcerative colitis over a long period of time be considered fit subjects for colectomy and excision of the rectum. Indeed, in such persons, even if the hazard of malignant degeneration is not considered, surgical management is mandatory if a cure of the disease and escape from crippling secondary organic changes is to be insured.

CHOICE OF PROCEDURE

In our approach to the selection of an operation for ulcerative colitis we believe that ileostomy alone, as a definitive or curative measure, has no place in the surgeon's armamentarium. Further, we do not recommend ileostomy for any patient unless there is indication that the ileostomy should be accompanied by colectomy or that colectomy should be performed at a later stage. We find one-stage ileostomy combined with colectomy a most acceptable and useful technique.[9] Patients with acute exacerbations or progressive fulminating disease respond dramatically. In contrast to ileostomy alone, we observe that postoperative disability is especially lessened by a more rapid adjustment of the ileum to the functions of the colon in the absence of the colon. There is less toxicity, as evidenced by lowered temperatures and pulse rates. Nutrition, fluid, and electrolyte balance are more quickly restored, and the patient is not faced with greater surgery to follow.

We do not attempt preservation of the rectum with the thought of utilizing it in the future. Despite interruption of the fecal stream by ileostomy, there is a danger of carcinomatous change. Furthermore, it has been evident that, even with the lapse of several years, complete rectal healing is unlikely. Drainage is generally continuous, and there is practically no hope that a once diseased rectum can ever be restored to satisfactory function. Transplantation of the ileum to the anus in an attempt to reconstruct the continuity of the bowel has not been generally accepted. Postoperative complications and difficulties in rehabilitation are greatly increased, and we have not felt justified in subjecting patients to this further surgery.

We have long ceased to feel apologetic or reluctant in recommending permanent ileostomy. The patient and his family are clearly advised, without reservation, concerning the nature of an ileostomy and the care that it will require. That this approach is justified is aptly shown by the average patient, who unhesitatingly learns to care for himself and quickly progresses to complete rehabilitation. Most of these patients are able to assume responsibilities that were unthinkable in their previous physical state.

ACHIEVEMENTS IN SURGERY OF CHRONIC ULCERATIVE COLITIS

Ileostomy.—In the past, most of the complications following operative intervention for chronic ulcerative colitis centered about the ileostomy. Little was known of the nature of electrolyte, nutritional, and fluid losses from this artificial opening. Replacements were often inadequate, with the result that patients were greatly retarded in their convalescence. Today this difficulty has been largely overcome. We are now much more conscious of the importance of fluid, potassium, and sodium deficits. Accurate techniques are available for measuring the circulating blood volume, and we are no longer at a complete loss in estimating nitrogen deficiency. We have newer and better means of supplying calories and proteins, and we are more than ever aware of the great part that whole blood restoration plays in the postoperative course. Newer electrolyte solutions are available for intravenous use. Fewer difficulties related to electrolyte, fluid, and nutritional losses have been noted in the newer simultaneous ileostomy and colectomy procedure because of an earlier adaptation of the ileum to the absorption of these materials.

In the past, ileostomy was often the source of partial or complete intestinal obstruction. This complication could, in almost every case, be traced to haphazard and faulty technique arising from haste and inattention to the fine details of ileostomy construction. Preventable partial obstruction of the stoma due to narrowing of the stab wound or skin incision was overlooked, and usually little or no attention was given to utilizing the cut edge of the free mesentery to anchor the distal ileum. By suturing of this free border to the anterior abdominal wall, torsion or the wrapping of intestine around the illeum was found to be prevented, and prolapse of the stomas was no longer a possibility. The combination of ileostomy with colectomy [10] brought with it the discovery that postoperative adhesions could be considerably lessened by the removal of the diseased colon.

Intermittent or partial obstruction of the ileostomy noted in some of our early patients was often complicated by the development of ulcerative changes in the ileum. Two of these patients required resections of several feet of the terminal small intestine. These experiences with ulcerative ileal recurrences caused by partial obstruction parallel those of McKittrick and Miller [11] and Dennis and Karlson.[12] The care of the skin is of minor concern because of the arrival on the market of simple skintight, lightweight appliances. Attention must be directed to-

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6. Coffey, R. J., and Bargen, J. A.: Intestinal Polyps: Pathogenesis and Relation to Malignancy, Surg., Gynec. & Obst. **69**:136, 1939.

7. Bargen, J. A., and Comfort, M. W.: The Association of Chronic Ulcerative Colitis and Multiple Polyps, Ann. Int. Med. **4**:122, 1930.

8. Swinton, N. W., and Warren, S.: Polyps of the Colon and Rectum and Their Relation to Malignancy, J. A. M. A. **113**:1927 (Nov. 25) 1939.

9. Footnotes 1-13. Trimpi, H. D., and Bacon, H. E.: The Evolution of Surgical Supervision in the Management of Advanced Idiopathic Ulcerative Colitis, Rev. Gastroenterol. **18**: 325, 1951.

10. Bacon, H. E., and Trimpi, H. D.: The Selection of an Operative Procedure for Patients with Medically Intractable Ulcerative Colitis, Surg., Gynec. & Obst. **91**:409, 1950.

11. McKittrick, L. S., and Miller, R. H.: Idiopathic Ulcerative Colitis: A Review of 149 Cases, with Particular Reference to the Value of, and Indications for Surgical Treatment, Ann. Surg. **102**: 656, 1935.

12. Dennis, C., and Karlson, K. E.: Surgical Measures as Supplements to the Management of Idiopathic Ulcerative Colitis: Cancer, Cirrhosis, and Arthritis as Frequent Complications, Surgery **32**: 892, 1952.

ward the placing of the ileostomy to allow for fitting of a correct bag, but if this has been done correctly there need be no leakage of intestinal contents. The Koenig-Rutzen, Jonas, Pierce, and Perry appliances have all been very satisfactory in our hands.

Colectomy.—There is very little doubt today in the mind of any surgeon dealing with chronic ulcerative colitis that a one-stage colectomy is superior to the frequent stages that characterized the operation in the past. A signal advance was attained when the three stage operation, ileostomy followed by colectomy, followed by excision of the rectum, with suitable time intervals between each, replaced the older five-stage or six-stage procedure. In the last few years we have found further progress in the employment of two stages, the first for ileostomy and colectomy, and the second for extirpation of the rectum. Recently we have satisfactorily performed the one stage operation (ileostomy and total colectomy with perineal proctectomy) in seven patients without mortality or increased morbidity.

The technical difficulties of colectomy are few. Considerable judgment is necessary, however, in determining at what point to divide the terminal ileum. If too much small bowel is sacrificed, there are increased postoperative losses of fluids and electrolytes. If too little is removed, the hazard of leaving diseased terminal ileum in situ is a reality. Frozen section has been suggested as being superior to gross study of the bowel to determine the extent of inflammatory involvement, and we would recommend every aid available in making this decision.

A problem arises regarding the site of amputation of the distal large bowel. Experience has taught us to avoid attempts to close any segments of ulcerated intestine leaving them within the abdomen or in retroperitoneal positions. Therefore, we elect to divide the low sigmoid and let the distal segment remain in the lower pole of the wound rather than to amputate the diseased rectum and close the distal segment. Abscess and sepsis are likely to occur. After the occurrence of perirectal infection in two of our patients, we concur with Miller, Gardner, and Ripstein [13] that the conservative measure is best adhered to. An alternative is, of course, to extirpate the rectum at the same time.

Abdominoperineal Excision of the Rectum.—We have had little or no problem in the abdominal approach to mobilizing the distal sigmoidal and rectal segment and removing it via the perineum by means of a modified Miles procedure some weeks after colectomy. In the male, care must be taken not to injure the vas or seminal vesicles, and in both sexes the levators and other perirectal structures are disturbed as little as possible so that bladder and sexual dysfunctions are avoided.

A question arises concerning the advisability of leaving the rectum for future anastomosis. Our experience with this maneuver has been discouraging, and a review of the literature would seem to support our findings. The outstanding complication is a recurrence of the disease in a supposedly healed rectum, even though a year or more is allowed to elapse before the ileum is brought down to anastomose. We performed the procedure in three patients. In two, it was later necessary to reestablish the ileostomy and excise the rectum. In all three cases the rectal manifestations of colitis were mild, and complete healing occurred before anastomosis. Danger of carcinomatous change in the preserved rectum cannot be overlooked because it is well known that cancer will develop even in the absence of the fecal stream, and in ulcerative colitis the rectum is the commonest site for its development.

SURGICAL RESULTS

Of 331 patients with chronic ulcerative colitis who were studied and treated by us, 81, or 24.5%, were operated on. Ileostomy alone was performed in 36 patients, with a mortality of 4, or 11.1%. Colectomy and abdominoperineal excision of the rectum were performed in 45 patients without a single postoperative fatality. Among the 81 patients undergoing surgical treatment a total of 145 operations were performed. Ileosigmoidostomy with colectomy was achieved in three patients, but in two of these it was later necessary to establish permanent ileostomies and excise the rectum. Twenty-eight miscellaneous operations were carried out, consisting primarily of ileostomy revisions. Four patients underwent lysis of adhesions, two had drainage of abdominal abscesses, and in two it was necessary to resect the distal ileum. One of these latter patients died postoperatively. Wound disruption was noted in one patient, but repair was followed by complete recovery. Five patients had carcinoma, and two of these died of carcinomatosis within two years after operation. In the remaining three, who are alive and well, sufficient time has not elapsed to record proper survival evaluations. Of 45 total colectomies and 42 excisions of the rectum, complete rehabilitation has been attained in 41 cases, a rehabilitation rate of 91.1%. Two rehabilitated housewives of the colectomy group became pregnant and successfully carried to term viable infants. In both instances labor and delivery were normal.

SUMMARY

Great achievements have highlighted the progress of surgical management in chronic ulcerative colitis during the past decade. The cooperation of all fields of therapy has been outstanding in bringing the patient who is intractably ill to surgery before irreversible and fatal secondary functional and organic changes have supervened. Of a series of 331 patients with chronic ulcerative colitis treated by us since 1940, 81, or 24.5%, underwent surgical intervention. A total of 145 operations were performed, with a surgical mortality of 5, or 3.4%. Four of these deaths occurred prior to 1946, as the result of emergency ileostomies in practically moribund patients.

Particular attention is directed to the patient with a longstanding chronic illness who experiences exacerbations and remissions every few months or years, and who is never ill enough at any one time to indicate immediate surgical intervention, but who eventually is either totally disabled or succumbs to secondary organic complications. Colectomy must be considered. Weighed against the low surgical risk and the inconvenience of a permanent ileostomy are the benefits of cure of the disease, removal of a precancerous bowel, and prevention of thromboembolic disease and a reversal of degenerative liver, kidney, and arthritic changes.

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[13] Miller, G. G.; Gardner, C. M., and Ripstein, C. B.: Primary Resection of the Colon in Ulcerative Colitis, Canad. M. A. J. 60: 584, 1949.

Five cases of cancer complicating chronic ulcerative colitis are reported. These adenocarcinomas were discovered in specimens of colon and rectum from a series of 45 colectomies in which complete colectomy was performed (incidence of 11.1%). In four cases, cancer was not suspected preoperatively. In each specimen the lesions were diffuse, invasive, and of high grade, and there were numerous accompanying inflammatory polyps. We recommend for the surgical management of ulcerative colitis, a two-stage operation, the first stage to consist of ileostomy and colectomy down to the low sigmoid colon and the second stage to be an abdominoperineal excision of the rectum and distal sigmoid. Ileostomy carefully performed concomitantly with the extirpation of the diseased colon affords the patient less difficulty in adjustment than ileostomy alone. Modern appliances and receptacles are lightweight and are easily worn without discomfort or annoyance. The patient is permitted to return to full employment, often to occupations prohibited to him prior to operation because of ill health. Ileostomy, unless it be followed or accompanied by colectomy, is not recommended. Excision of the rectum and distal sigmoid colon must be performed in each patient undergoing colectomy. Of 45 patients undergoing colectomy with excision of the rectum, 41 have been completely rehabilitated (a rehabilitation rate of 91.1%). In the rehabilitation group are two mothers who have recently become pregnant and successfully carried to term viable infants with normal labors and deliveries.

255 S. 17th St. (3) (Dr. Bacon).

RATIONAL USE OF ANTIBIOTICS IN CONTROL OF SURGICAL INFECTIONS

Frank L. Meleney, M.D.
and
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It is a truism to say that the antibiotics have altered the natural course of pathological conditions that have been designated surgical infections. These infections are pathological processes produced in the human or animal body by the entrance of bacteria into the tissues causing either an exudation of leukocytes into a localized area of necrosis or an exudation of leukocytes into a body cavity without necrosis but with the formation of a fibrinous clot. Such pathological processes formerly required a surgical procedure for their control, either excision of part or all of the area of inflammation or incision for removal of the exudate, necrotic tissue, and bacteria that they contain.

The antibiotics have been distributed widely throughout the world, and in places in which they are generally available it is now the responsibility of the surgeon to use them to the best of his knowledge and ability, to prevent bacteria from gaining a foothold in the body when they have entered through the operative wound or at the time of an accidental wound or burn, and to stop their activity as abruptly as possible, if he finds that the bacteria have already become established in the tissues when the patient comes for help. To aid him in those purposes, the surgeon now has available not only his scalpel but eight or nine antibiotics and several other chemotherapeutic agents. Inasmuch as a surgical procedure of itself will often bring the progress of a surgical infection to a standstill, it is at times difficult to be sure that the use of the antibacterial agents in addition or as an adjunct to surgery will achieve these purposes any better than surgery alone. Some time ago one of us (F. L. M.) suggested five criteria by which one could judge that the antibiotics are of some use in surgical infections. These criteria are met when (*a*) the antibiotics obviate the necessity for surgery entirely, (*b*) they permit a less extensive surgical procedure, (*c*) they actually shorten the healing and recovery time, (*d*) they permit a successful primary closure after removal of the focus of infection, which otherwise would not be possible, and (*e*) they permit an earlier secondary closure than would otherwise be done. Further confirmation of the effectiveness of the antibiotics is demonstrated when the purulent exudate suddenly ceases or the wound cultures become negative.[1]

The knowledge of how best to use the antibiotics and which ones to use in any given case is imperative. If penicillin were a panacea or the only antibiotic available, the decision would be easy, but the very multiplicity of antibacterial agents, each with its respective advantages and disadvantages, makes the wise choice difficult. Undoubtedly more antibiotics will be discovered and will complicate the picture still further. It is our hope that this paper will transmit some of our experience in this field.

It requires continuous vigilance, but the rewards are gratifying when infections respond to specific therapy. This vigilance is essential because every accident and every surgical procedure has the potentialities of infection and at least one-third of the cases on a general surgical service are problems of infections well established before admission to the hospital.

It is our purpose to outline a program of procedure so that more patients will have the fullest benefit of our knowledge of the antibiotics. It is also our aim to restore the patient as soon as possible to normal form and function and thus shorten disability, minimize economic exhaustion, and prevent physical disfigurement or death.

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From the Department of Surgery, Laboratory for Bacteriological Research, College of Physicians and Surgeons, Columbia University, and the Surgical Service of the Presbyterian Hospital, New York.

[1] Meleney, F. L.: Difficulty of Evaluating Drug Treatment in Surgical Infections, J. A. M. A. 124: 1021-1026 (April 8) 1944.

What are the conditions met by a surgeon that offer the opportunity for employing antibiotics intelligently? These may be classified in two groups—those responding to either prophylactic or active measures.

PROPHYLACTIC USE OF ANTIBIOTICS

Clean Wounds.—The surgeon is interested first of all in preventing infection in operative wounds. All of the minutiae of sterile technique have been developed with that end in mind—the autoclaving of dry goods and solutions, the boiling of instruments, the scrubbing of hands of the operating team, the masking of noses and mouths, the preparation of the operative field, the avoidance of air contamination, the use of silk and cotton for suture material, the gentle handling of tissues, and careful hemostasis. All of these procedures should bring the incidence of wound infection in a clean field to less than 2% and in serious infections to less than 1% in any well-run operating room.

What place have antibiotics in the prophylaxis of infection in clean wounds? Should 50 patients receive an antibiotic or a combination of antibiotics to prevent infection in one of them? No! It is our belief that antibiotics should not be used with clean fields except for certain categories that will be mentioned below. To use antibiotics in clean operations is an admission that the sterile technique in the operating room is not up to the requirements, and it is likely to drop to still lower levels if breaks in technique are not corrected because the surgeon will say, "Oh, never mind. An antibiotic will take care of that."

There are, however, certain cases in which, if infection occurs, it is a very serious matter. These are operations on the brain and on the heart. These are often long procedures, and, therefore, the chance of air contamination is increased. In a somewhat lower category, from the point of view of the frequency of infection, are the long plastic procedures on the neck, chest, and breast.

What antibiotics should be used in these cases, and how should they be used? The condition with which the surgeon has to deal is a wound with relatively few organisms on freshly cut surfaces. The ideal treatment is a fine spray of 5 to 10 cc. of the antibiotic into all crannies of the wound during closure. Thus direct contact with contaminating organisms can be obtained. Furthermore, the best antibiotic is one that is bactericidal. By using such an antibiotic the organisms can be killed directly and are given no chance to gain a foothold. They are not merely held in check as they would be by a bacteriostatic agent requiring the bacteria to be destroyed by the body defenses.

TABLE 1.—*Resistance to Penicillin of Coagulase-Positive Micrococcus (Staphylococcus) Aureus**

Year	No. of Strains	% Resistant
1947-1948	286	17.8
1949	228	29.1
1950	269	43.5
1951	293	43.0
1952	290	31.1
1953 (Jan. 1-May 1)	269	22.3

* Recovered from infections treated in outpatient department, Surgical Service, Presbyterian Hospital, New York.

The commonest contaminating organisms in cle operations are the micrococci (staphylococci) from t air and from the skin of the patient. If the operating te: personnel does not adequately mask the nose as well the mouth, another abundant source of micrococci open to the sterile field. The most reasonable antibiot to choose are penicillin, bacitracin, streptomycin, neomycin (table 2). All of these are bactericidal a potent against micrococci. *Penicillin or bacitracin, i concentration of 1,000 units per cubic centimeter,* m be sprayed on the operative field and are preferable streptomycin and neomycin. In recent years, howev with a large percentage of micrococci resistant to pe cillin and with patients becoming increasingly sensitive penicillin, bacitracin is taking on a more important ro Patients are seldom allergic to bacitracin. On brain s faces, bacitracin is much less toxic than penicillin, a this fact makes it preferable as a prophylactic in neu surgical procedures. *For effective local use, streptomy* requires a concentration of 0.5% and neomycin 1%. large fresh wounds, which are to be closed, neomy might prove to have a systemic toxic effect.

TABLE 2.—*Resistance of Coagulase-Positive Micrococcu (Staphylococcus) Aureus* to Various Antibiotics*

Antibiotic	% Resista
Penicillin	22.3
Bacitracin	7.1
Streptomycin	10.0
Oxytetracycline (Terramycin)	15.5
Neomycin	1.0

* Recovered from infections treated in outpatient department, Surg Service, Presbyterian Hospital, New York, Jan. 1-May 1, 1953.

During the last few years, reports have come fr many sources that micrococci have become increasin resistant to penicillin. Some reports go as high as 60 80%.[2] Our own experience showed this trend duri the first two years of the extensive use of penicillin, t *in 1951 the rise in the percentage of resistant strains ca to a standstill in infections treated in outpatients.* In t *past two years it has fallen again* (table 1). We belie we were the first to call attention to this fact and ha put forward the theory that the phenomenon may be d to the widespread use of bacitracin and the combin tion of chlortetracycline (aureomycin), oxytetracycli (Terramycin) and chloramphenicol (Chloromycetin

Table 2 shows our most recent experience with te for sensitivity and resistance of micrococci to the fi antibiotics that we use oftenest and against which w routinely test every culture that comes to the laborator Table 3 gives a comparison of the action of bacitrac and neomycin against the major strains of organism coming to the Surgical Bacteriological Laboratory fro all surgical services except otolaryngology and derm tology. This shows how bacitracin and neomycin con plement one another for local therapeutic effect.

Antibiotics given systemically are not *usually indicate* in clean fields for, if potent bactericidal antibiotics a

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2. Barber, M., and Rozwadowska-Dowzenko, M.: Infection by Penicillin-Resistant Staphylococci, Lancet 2:641-644 (Oct. 23) 1948. Dukes, C. D.: Importance of Specific Antibiotic Therapy in Surgical Infections, Am. Surgeon 18:778-783 (Aug.) 1952.

3. Meleney, F. L., and Johnson, B. J.: Clinical Significance of Increasing Resistance of Organisms for the Antibiotics, Surg., Gynec. & Obst. 97:267-276 (Sept.) 1953.

applied to the surface of the fresh wound, any casual contaminating organisms are not given the opportunity to multiply and invade the deeper tissues. When administered systemically, the antibiotic reaches the wound area in very dilute form. If infection develops in spite of the local prophylactic antibiotic, because the contaminating organisms are resistant to the antibiotic used, cultures will determine the nature of the infection and the sensitivities of the causative organisms to some other available antibiotic, which should then be employed.

Contaminated Fields.—There is, however, a real indication for the use of antibiotics prophylactically in contaminated fields of operation. Bacteria on mucous membrane surfaces of the body cannot be destroyed or reduced in number as readily as they can be on the skin. Operations that expose the tissues to contamination from these sources have, therefore, a greater chance of becoming infected. The incidence of infection in these fields may be 20 to 25% in a well-ordered operating room, if antibiotics are not used. It is reasonable to give antibiotics to four or five patients to prevent infection in one. This applies to operations on the eye, ear, nose, throat, mouth, esophagus, stomach, duodenum, jejunum, ileum, colon, vagina, and penis.

TABLE 3.—*Results of Tests for Sensitivity to Neomycin and Bacitracin*

Species *	No. of Strains	% Sensitive to	
		Neomycin	Bacitracin
Coagulase-positive Micrococcus (Staphylococcus)	397	99.0	89.0
Coagulase-negative Micrococcus (Staphylococcus)	98	100.0	80.5
Hemolytic Streptococcus	100	58.0	85.0
Nonhemolytic Streptococcus	241	34.4	89.2
Coliform group	200	97.5	....
Proteus group	135	91.0	....
Pseudomonas group	49	34.7	....
Clostridium welchii	29	10.3	100.0

* Recovered from infections treated on all surgical services, Presbyterian Hospital, New York, Jan. 1-May 1, 1953.

It must be remembered that the contaminating organisms are different in different parts of the alimentary tract. The organisms most commonly found must constantly be kept in mind, and the appropriate antibiotic or mixture of antibiotics must be used. In fact, in elective procedures, it is best to take cultures from the operative field a few days before operation and to test the sensitivities of the organisms found.

The organisms that commonly contaminate operative wounds made on the nose are micrococci and nonhemolytic streptococci. On the mouth and esophagus they are the nonhemolytic and anaerobic streptococci, and, where there is a chronic pyorrhea, spirochetes and fusiform bacilli. The stomach with normally acid gastric juice often yields sterile cultures because of the acidity of that secretion. When organisms are found in the stomach or duodenum, they are usually the nonhemolytic streptococci, which are able to persist longer than other organisms in the acid environment and often pass into the duodenum. These species are also present in the jejunum, and here the gram-negative rods of the coli group begin to appear and a little further down, the clostridia, including the Welch bacilli. These three groups increase in number and variety from above downward; they are in greatest concentration in the lower ileum. When they pass the ileocecal valve into the colon, they begin to die in great numbers, so that when the stool is passed out of the rectum, although one-third of the mass is made up of bacterial bodies, most of them are dead.

Operations on the stomach and intestine have been carried out for many years through a clean abdominal wall. The operative field is only contaminated when the bowel is entered. Contamination can be minimized by various closed methods of anastomosis, but with the open methods now widely used, contamination varies greatly according to the care taken to prepare the bowel either mechanically or chemically beforehand and the care taken to prevent spillage. In recent years more and more procedures on the alimentary tract are carried out through thoracic or thoracoabdominal incisions, thus exposing the mediastinum and the pleural cavities to contamination. Often leaks from esophageal or esophagogastric anastomoses, duodenal stumps, gastroenterostomies, or enteroenterostomies are attributed to faulty suturing, but it is our contention that contaminating bacteria are oftener responsible for the failure of these anastomoses to heal and this results in leakage. Such leaks are more apt to occur when the anastomosis is above the stomach than when it is below, because the contamination above is from the mixture of mouth organisms that may be particularly numerous and synergistic, especially if mouth hygiene is bad. The next commonest site of leakage is in the lower ileum, because the intestinal organisms there are most numerous and viable.

It is, therefore, the responsibility of the surgeon to use every means available to minimize the contamination of the operative field whenever he is working along the alimentary tract. Mouth organisms may be reduced by dental care preliminary to any operation on the throat or esophagus, but this is not enough because the bacteria can be further reduced or discouraged by the local use of antibiotics. Bacitracin is particularly useful in this region because it is potent against the nonhemolytic streptococci, the anaerobic streptococci, and the spirochetes of the mouth, and it seldom if ever causes any allergic reaction in the mouth. Bacitracin requires the addition of an antibiotic potent against the gram-negative rods for action further along the alimentary tract, and here neomycin seems to serve well. Neomycin is weak against the streptococci and clostridia, but it is potent against most strains of Esch. coli and particularly of Proteus, which is resistant to almost all of the other antibiotics (table 3).

Both bacitracin and neomycin are bactericidal and are compatible with each other. We have demonstrated their synergistic action many times but never antagonism. Tablets are commercially available containing 2,500 units of bacitracin and 25 mg. of neomycin. These may be dissolved slowly in the mouth once every four or six hours to get the maximum effect in the mouth and esophagus or in the stomach. If the effect is desired in the lower intestine, four tablets should be swallowed every four or six hours. As neither of these antibiotics is absorbed, they continue their maximum action all along the alimentary tract. There is no need for fear of any systemic toxic reactions. Often when cultures are taken from the esophagus and stomach and at the site of bowel resection sterile cultures are obtained after the administration of bacitracin and neomycin, as described above, for 48 or 72 hours. We have not seen or heard of either staphylococcic or proteus enteritis following their use in this manner.

Chlortetracycline, oxytetracycline, and chloramphenicol have all been used, and favorable results have been reported. These three antibiotics, however, are often not well tolerated in the mouth and, therefore, are not available for action on mouth organisms. All of them are partially absorbed from the intestine, and the amount available to inhibit the multiplication of organisms in the large intestine is uncertain. Furthermore, they frequently cause gastrointestinal upsets, with nausea and diarrhea, and often make it necessary to discontinue treatment. Oxytetracycline seems to be the least objectionable in these respects, and, if diarrhea does occur, it can generally be controlled. The association of chloramphenicol with aplastic anemia must be kept in mind. It does not seem advisable to us to run the risk of using it when other measures are superior. Monilial superinfections occur in some cases treated with chlortetracycline, oxytetracycline, or chloramphenicol, and the Proteus bacilli and Micrococcus aureus may multiply prodigiously in the bowel. For these reasons we do not consider any of these three so-called broad spectrum antibiotics optimal for this purpose.

Phthalylsulfacetimide (Thalamyd) has been found to be the most effective of the sulfonamides in reducing the number of intestinal organisms, but the preparation of the bowel with it usually requires five or six days, while the combination of bacitracin and neomycin will often give a sterile culture at the operative site in 48 hours. Further studies are necessary to determine whether it is advisable and more effective to combine phthalylsulfacetimide treatment with antibiotics.

Polymyxin B and chlortetracycline have been combined independently with bacitracin with favorable results, but neither polymyxin B nor chlortetracycline has as wide a spectrum over the gram-negative rods as neomycin, which is effective against most strains of the proteus group. Neomycin has been used alone with good reports of its effectiveness, but its weakness against the clostridia and the intestinal streptococci, both hemolytic and nonhemolytic, leaves a gap in the coverage of the intestinal organisms; this gap is closed by bacitracin. Of 29 strains of Clostridium welchii recently tested, all were susceptible to bacitracin but only 10% to neomycin (table 3).

At the time of operation, the surgeon should take a culture from the lumen of the alimentary tract at the site of operation, wherever that may be, so that he will know within 24 hours what organisms, if any, have contaminated the operative field. If any organisms are still viable in the lumen of the gut, the surface of the tissues at the level of operation will be contaminated by these residual bacteria. It is rational to assume that in every case some of the intestinal organisms have contaminated the operative site. In the past, it has been considered adequate in our hospital to apply a mixture of 20 mg. of streptomycin and 5% *p*-aminomethylbenzene sulfonamide (Sulfamylon) in 100 cc. of water to the area of operation within the abdominal cavity, as advocated by Howes.[4] Recently we have advised the addition to this of 20,000 units of bacitracin in 20 cc. of water or sodium chloride solution to give a safer coverage of the intestinal cocci and clostridia.

Penicillin and streptomycin have demonstrated the effectiveness in the treatment of peritonitis due to a mi ture of lower bowel organisms. These may be given afte bowel resections in a dosage of 400,000 units of penicilli and 0.5 gm. of streptomycin twice a day, or bacitraci may be substituted for the penicillin in a dosage of 20,00 units with 0.5 gm. of streptomycin every eight hours t give a wider coverage over the intestinal cocci an clostridia.

If the cultures taken at the operative site yield orga isms resistant to the antibiotics that have been used, change should be made after 24 or 48 hours to the anti biotic or mixture of antibiotics that have been dem onstrated to have the greatest activity against thes particular organisms. Such treatment should be give systemically, if possible.

Before operations on the vagina, cultures should al ways be taken, and the sensitivities of the bacteria foun should be determined. Then, during the operation, th operative field should be sprayed with the antibiotic tha is most potent against the contaminating organisms.

Another important field for the prophylactic use of th antibiotics comprises civilian accident wounds, burn and gunshot wounds. These are all contaminated, usu ally with a mixture of organisms. Dirty accident and gun shot wounds should always be thoroughly debrided an the debrided tissues, blood clot, dirt, and other forei bodies sent to the laboratory for culture so the surgeo may be forearmed with knowledge of which organism are present and their sensitivities should infection develop. Some residual contaminating organisms are alway left on the surface, but they are not deep in the tissues o the wound, if it is less than four hours old. This offer the best opportunity for obtaining close contact of these organisms with some potent bactericidal antibiotics. A combination of bacitracin, 1,000 units per cubic centimeter, and 1% neomycin covers most of the organisms that may be expected in these wounds. The mixture should be sprayed liberally over the surface and into all nooks and crannies. This local application is more important than the systemic use of antibiotics in these cases. It should be remembered that the organisms are on the surface and not in the tissues, unless the wound is four or more hours old.

Wounds of the scalp, face, or hands may be closed after local application of antibiotics. In other areas, the wounds may be left open, tamponed with China silk, and packed with fine meshed gauze wet with the antibiotic mixture. If on the next day the culture report indicates a change in antibiotics, they should be applied. If the cultures show no important pathogens and the wound remains clean, a late primary or early secondary closure may be done. If the cultures reveal important pathogens, the appropriate antibiotic or combination of antibiotics may be used systemically. The wound should then be left open until the pathogenic organisms disappear from it.

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[4] Howes, E. L.: Topical Use of Streptomycin in Wounds, Am. J. Med. 2: 449-456 (May) 1947.

The contamination of burns is very similar to that of wounds except that the organisms are generally more numerous and are distributed over a larger area. Again it should be remembered that immediately after the burn, the organisms are on the surface only and that this offers the best opportunity for bringing the most potent antibiotics into contact with them. Again cultures should be taken within 24 or 48 hours to determine the organisms with which the surgeon has to deal. A mixture of antibiotics should be applied to the surface as soon as the cultures have been taken and without waiting for the culture report. The antibiotic treatment should be modified later, if necessary, according to the results of the cultures.

The contamination in burns is oftenest due to hemolytic micrococci and hemolytic streptococci and gram-negative rods of the Proteus, pyocyaneus, and coli groups. Because so many micrococci are now resistant to penicillin and because many patients are allergic to it, bacitracin is the most reliable antibiotic for the gram-positive cocci, and bacitracin, together with a mixture of neomycin and polymyxin B, is best for the gram-negative rods. Polymyxin B is added to the mixture in the treatment of burns because it is the best agent against the pyocyaneus, a common contaminant in burns. There is no danger of systemic toxicity from the local application of these drugs. If the areas are to be left exposed, a solution containing this mixture may be sprayed on the surface, or, if the burn is to be kept under pressure dressing for a time (10 days), the antibiotics may be incorporated in a water-soluble base, like carbowax, on an innermost dressing of fine meshed gauze.

One more situation in which antibiotics may be used prophylactically occurs in cases of elective amputation of an extremity for gangrene. Preliminary cultures and sensitivity tests will indicate the most potent antibiotics against the organisms present in the gangrenous lesion. It must be assumed that organisms are moving up the lymphatics to or beyond the level of amputation. It is good practice to take cultures at the level of amputation and then to spray the surface with the antibiotic indicated by the preliminary culture before closing the wound. If the infection is severe and the organisms of particular virulence, the wound should be left open until the results of the cultures from the level of amputation are known. If the cultures are negative, a delayed primary or early secondary closure may be done. If the cultures are positive, local treatment with the antibiotic should be continued and systemic treatment should be instituted because of the probability that the infection has already gone beyond the cut surface.

ACTIVE TREATMENT OF SURGICAL INFECTIONS

It goes without saying that the antibiotics will not be effective in controlling any infection unless the organism is sensitive to the antibiotic used. This sensitivity can be determined only by culture studies in the laboratory. It cannot be done by guesswork. From the previous course of the infection or the area involved, many experienced surgeons may be able to guess the most likely causative species of bacteria, but they cannot guess, with any measure of certainty, the susceptibility of the organisms to any given antibiotic.

The development of resistant strains of the common organisms, first noted by the micrococci against penicillin and recently by other organisms against all of the antibiotics,[5] makes it imperative that these tests be done. It is more important to determine the sensitivities of the organisms than to name or classify the organisms. The blood agar plate method using filter paper disks wet with the proper dilution of the different antibiotics is the simplest and most reliable, and the dilutions can be adjusted so that the results are of real clinical significance. Our laboratory routinely tests the sensitivity of every culture simultaneously against the five antibiotics most commonly used, penicillin, bacitracin, streptomycin, oxytetracycline, and neomycin. A preliminary report may be made after overnight culture. If any organisms are resistant to these five, further studies are made with chlortetracycline, chloramphenicol, polymyxin B, and erythromycin.

Two years ago we sent a brief questionnaire around to the hospitals in the New York metropolitan area to find out whether they had bacteriological laboratories equipped to do aerobic and anaerobic cultures and sensitivity tests.[6] We also asked how often surgeons requested that these tests be done for cases of infection. At that time, the replies clearly indicated that many hospitals did not have these facilities and that, even when they did have them, such tests were seldom requested. It was then the common habit of many surgeons to give penicillin at once and, if that was not successful, to add streptomycin and then one or more of the other antibiotics in turn or all of them together. Then, if there was no response, they might repeat the sequence again. At a medical meeting held at that time, many surgeons present acknowledged their own fault in this regard; some blamed their laboratories.

Today, although we have not repeated the questionnaire, we know that the situation has improved considerably. More and more laboratories have these facilities, and many surgeons now request that these tests be done. Surgeons are becoming educated to the importance and advantage of calling on and relying on the laboratory for these tests. If, however, the question, "How many surgeons routinely demand these tests for cases of infection and are satisfied with the results?" were asked one wonders how many would answer in the affirmative. Certainly sensitivity studies can be done in any laboratory with the basic facilities that every hospital should have. Surgeons should request these tests, but the laboratory should carry them out routinely, whether they are requested or not. This procedure will give the surgeon the proper basis for the choice of the most effective antibiotic in any given case.

CHRONIC AND ACUTE INFECTIONS

There is a great diversity of well-established surgical infections. Among the acute infections are furuncle, carbuncle, cellulitis, superficial abscess, deep abscess, septicemia, osteomyelitis, suppurative arthritis, tenosynovitis, suppurative lymphadenitis, cholecystitis, appendicitis, local peritonitis, diffuse peritonitis, fibrinopurulent peritonitis, and Meckel's or sigmoid diverticulitis. Chronic surgical infections may develop from any acute infection that has not responded to previous treatment. An arbitrary time division between acute and chronic cases is 30 days. Among the chronic infections are ulcers, undermining or simple and with or without vascular insufficiency, lung and liver abscesses, chronic osteomyelitis, tuberculosis, actinomycosis, synergistic infections, such as progressive bacterial synergistic gangrene, fusospirochetal infections following human and animal bites, gangrenous impetigo and amebic infections, chronic ulcerative colitis, terminal or regional ileitis, chronic diverticulitis, and many others.

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[5] Eagle, H.; Fleischman, R., and Levy, M.: Development of Increased Bacterial Resistance to Antibiotics: Continuous Spectrum of Resistance to Penicillin, Chloramphenicol, and Streptomycin, J. Bact. **63**:623-638 (May) 1952.

[6] Meleney, F. L., and Johnson, B. A.: Chemotherapy and Antibiotics in Surgical Infections, S. Clin. North America **32**: 387-403 (April) 1952.

It is not necessary to give details of all of these separate clinical entities here, but we may briefly describe some of the principles involved in the employment of the antibiotics and the surgical procedures in the treatment of these conditions. We would like to make a plea for surgeons dealing with infections to be bacteriologically minded and to keep in mind what and where the bacteria are involved in the process and how they can be reached and destroyed by use of both the knife and antibacterial agents. Today surgery may be obviated in many cases, and this is usually to the patient's advantage.

In acute cases, if possible, a specimen of exudate should be taken by aspiration or by incision for smear and culture before instituting any drug treatment. After the culture has been taken, however, drug treatment should not be delayed. An immediate examination and report on the smear will give some hint regarding the nature of the organism. The surgeon must use his judgment as to which antibiotic is most likely to succeed and how it can best reach the organisms. If, on the next day, the culture indicates that his judgment has been correct, the original antibiotic should be continued, but, if the culture indicates a change, that change should be made at once.

In chronic cases, a careful bacteriological analysis should be made before starting treatment because there is usually a mixture of organisms present that have resisted previous antibiotic treatment. In established infections, the organisms are not merely on the surface but deep in the tissues, possibly in thrombosed blood vessels or in the blood stream. In such cases, the local application of the antibiotic may not contact the organisms; the antibiotic should then be given systemically in such doses and at such frequent intervals that it will reach the spreading periphery of the infection. In many established infections, however, local application is sufficient and the antibiotic can be brought into contact with the organisms in much higher concentration than by means of systemic treatment and without any damage to the local tissues. In this respect, the antibiotics such as penicillin, bacitracin, polymyxin B, streptomycin, and neomycin are far superior to the sulfonamides.

The toxic effects of bacitracin given systemically,
which were produced by the early deep-tank metho
manufacture, have largely been overcome. The pre
tions that are now available for parenteral use are e
tive and safe, if given intramuscularly in a dosage o
more than 20,000 to 25,000 units every six or eight h
and if there is a daily fluid intake of at least 2,500
Neomycin cannot be given systemically without fe
toxicity. Polymyxin B can be given safely with due re
to dosage and should be employed in pyocya
septicemia and in resistant cystitis and pyelonephritis
to the same group of organisms, if they are susceptib
it by in vitro tests.

The body cannot develop any immunity against
of the organisms causing surgical infections, but it
against many organisms causing medical infections.
immunity often plays a part in the recovery from me
infections.

It is of interest and of some importance that if
tetracycline or oxytetracycline fails to control the i
tion, the use of the other is not likely to succeed, bec
the susceptibilities of organisms run fairly parallel
these two antibacterial agents. If resistance develo
one of them during the course of treatment, that o
ism is also resistant to the other.[3]

It has been demonstrated that penicillin and bacit
may be injected directly into the center of furuncles
carbuncles and that they often stop the bacterial a
abruptly and check the further spread of the nec
if the causative organism is sensitive. Both of these
biotics seem to hasten the liquefaction of slough, w
of course must be removed either by incision and d
age, by spontaneous discharge, or by absorption.
carbuncles, if there is a narrow zone of induration ar
the necrotic center, injection into the center is suffi
to cause resolution because it permits a certain am
of absorption into the periphery. If there is a wide
of induration and a small central area of necrosis
antibiotic with procaine hydrochloride (Novocaine
butethamine (Monocaine) hydrochloride may be
jected around the periphery with rapid resolution o
process. In the treatment of abscess cavities, the pus
be aspirated and the antibiotic instilled and reaspi
mixed with pus. This procedure should be repeate
and when there is a reaccumulation of pus. Ofte
whole process resolves in three or four days and the
gical procedure of incision is frequently obviate
there is a wide zone of cellulitis or other indicatio
peripheral spread or sepsis, the systemic administra
of the antibiotic is indicated.

In cases of surgical infection caused by the hemo
Streptococcus, the hemolytic Micrococcus (Staph
coccus) aureus, and organisms of the coli, Proteus,
Pseudomonas groups, septicemia may be present;
means that the bacteria may be recovered from the b
stream. In such cases, it behooves the surgeon to see
remove, if possible, or drain the distributing focus,
to give systemically that antibiotic to which the orga
is most sensitive. It is particularly important in case
acute osteomyelitis that the most potent antibiotic
given early, within four days, to prevent the breakd
of the bone and its very unfortunate sequelae.

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7. Meleney, F. L.; Johnson, B. A., and Teng, P.: Further Experiences with Local and Systemic Bacitracin in the Treatment of Various Surgical and Neurosurgical Infections and Certain Related Medical Infections, Surg., Gynec. & Obst. 94: 401-425 (April) 1952.

Purulent collections in joints or in the pleural cavity may also be removed by aspiration and the infection controlled by the instillation of penicillin or bacitracin with reaspiration. This may be repeated as often as there is reaccumulation of exudate. Again in such cases surgery may often be obviated.

In well-established infections in operative or accidental wounds and burns, local treatment with the most potent antibiotic or mixture of antibiotics is often sufficient, but, if there is evidence of spread into the deep tissues, antibiotics must be given systemically. With respect to the gram-negative bacilli, the broad spectrum antibiotics are often the most effective.

In what we have said above, it is seen that the availability and effectiveness of the various antibiotics have modified some of our former fundamental principles in the treatment of surgical infections, but acute surgical infections within the peritoneal cavity should still be governed by the same general rules that have been good for a long time, namely, early operation and the removal of the offending focus, if that is possible. Operation gives the surgeon a clear picture of what he is dealing with, and cultures can then determine the nature and susceptibilities of the offending organisms.

In many instances, chronic surgical infections have been inadequately and improperly handled without a proper bacteriological study or without treatment with an antibiotic potent against the causative organisms. One might go as far as to state that today no acute surgical infection should ever become chronic while under the intelligent care of a competent surgeon. In many cases, the surgical procedures have been inadequate, and there may be necrotic tissue still present in the focus of infection. Almost invariably secondary organisms have had an opportunity to get into the area of infection and may be playing a synergistic role. These cases require a thorough study of the bacterial flora in the infected area and tests for susceptibility of all of the organisms found to all of the available antibiotics. Thereafter these patients require the careful application of the most potent antibiotic or mixture of antibiotics both locally and systemically. With some of these chronic infections, that is all that is necessary to turn the tide and start wound healing, but many of these cases first require surgical removal of the necrotic tissue. This is particularly necessary in chronic osteomyelitis, which demands the excision of all of the grossly diseased bone followed by the local application of the indicated antibiotics, preferably those of the bactericidal group. This treatment should be continued daily until healing begins and permits either a secondary closure or a skin graft.

SYNERGISM AND ANTAGONISM

When faced with a fulminating acute infection or a long-standing chronic one, some surgeons give two or three antibiotics as a shotgun remedy without any consideration of bacterial cultures or sensitivity test and without a thought concerning the possibility of antagonism of one antibiotic toward another. The surgeon often excuses himself by saying, "If one antibiotic doesn't stop the infection, one of the others will." This practice is certainly to be condemned as being unscientific, usually ineffective, and often harmful.

When primary cultures and sensitivity tests show a single organism and a single potent antibiotic out of five or more tested, that antibiotic should be used alone. If there is a mixture of organisms, as is so often the case in chronic infections, the susceptibility of each one should be tested and the most potent antibiotic used against each organism provided the antibiotics are not antagonistic to one another. If none of the antibiotics is effective by routine tests, the concentration can be increased in liquid mediums and the minimal inhibiting concentration can be determined. At times synergism of two antibiotics may be demonstrated by combining fractions of each of the minimal inhibiting concentrations. We believe that one criterion for demonstrating synergism should be that one-fifth plus one-fifth (or less) of each of the minimal inhibiting concentrations causes inhibition of growth. The two antibiotics may be said to have a synergistic action. If one-half plus one-half of the minimal inhibiting concentrations causes inhibition, it is considered an additive effect. If the combination requires more antibiotic for inhibition than the minimal inhibiting concentration of each one alone, there is antagonism.

The terms synergism and antagonism have been used for many years. In 1948, Eagle and Fleischman reported the remarkable synergistic action of penicillin and bacitracin in syphilis in experimental rabbits.[8] We have demonstrated, and reported in 1950, both in vitro and in vivo synergism of penicillin and bacitracin.[9] Jawetz and his co-workers have recently made many laboratory and clinical observations on this subject.[10] They find that synergism often exists between two of the bactericidal, or group 1, antibiotics (penicillin, bacitracin, streptomycin, polymyxin B, and neomycin) and between antibiotics of the bacteriostatic, or group 2, antibiotics (chlortetracycline, oxytetracycline, and chloramphenicol). However, antagonism often results, if a member of group 2 is combined with a member of group 1. This does not always hold true and cannot be predicted with certainty. It depends a great deal on the susceptibility or resistance of the organisms.[11] However, it should be kept in mind when antibiotic combinations are used clinically. Combinations of the two groups should be avoided unless synergism has been demonstrated in vitro. Further study is required on this important problem, and it will need to be continued as new antibiotics become available.

SUMMARY AND CONCLUSIONS

The natural course of surgical infections may be profoundly altered or brought to a complete standstill by the use of the appropriate antibiotic or combination of antibiotics in addition to the proper surgical procedure. Many times surgery may be completely obviated or its extent curtailed.

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[8] Eagle, H., and Fleischman, R.: Therapeutic Activity of Bacitracin in Rabbit Syphilis and Its Synergistic Action with Penicillin, Proc. Soc. Exper. Biol. & Med. 68: 415-417 (June) 1948.

[9] Johnson, B. A., and Meleney, F. L.: Studies on the Synergism Between Bacitracin and Penicillin: Correlation of in Vivo with in Vitro Results, Ann. New York Acad. Sc. 53: 42-49 (Aug.) 1950.

[10] Jawetz, E.: Therapeutic Use of Combinations of Antibiotic Agents, Cornell Conferences on Therapy, New York J. Med. 53: 1228-1233 (May) 1953.

[11] Klein, M., and Schorr, S. E.: The Role of Bacterial Resistance in Antibiotic Synergism and Antagonism, J. Bact. 65: 454-465 (April) 1953.

Successful treatment requires, on the part of the surgeon, the knowledge of the natural occurrence of bacteria in relation to the body, their potentialities and predilections, their behavior after gaining a foothold in the body, and the proper methods and timing of certain surgical procedures. Of equal if not greater importance for success in treatment is a knowledge of the causative and associated organisms and their susceptibility to the available antibiotics and the proper methods for their application. Our recent experience in the use of antibiotics and surgery in the treatment of surgical infections is outlined.

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PHARMACOLOGICAL TREATMENT OF AGED PATIENTS IN A STATE MENTAL HOSPITAL

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Improvement in medical care and general living conditions has definitely lengthened the average span of human life. Each year a greater percentage of the population reaches advanced ages, and statistics indicate that this trend will continue. Consequently there are constantly increasing numbers of persons subject to degenerative changes, especially in the central nervous system. Therefore, there has been an ever increasing demand for admission of aged patients to private and public mental institutions, and at the present time more than one-third of all persons first admitted to public mental hospitals in the United States are over 65 years of age. The magnitude of the important problem posed by this group needs no further emphasis, but it becomes even clearer if one considers that, for each person whose condition requires care in a mental hospital, there must be several others who can be cared for at home and who are not admitted to such a hospital. Out of necessity, therefore, extensive interest has been created in the problem of the aged patients, and consequently much attention has been given to the emotional problems of the aged and the aging, and new methods and ways are being found to deal with them.

In certain of these aged persons, impairment in the central nervous system is severe enough to produce serious emotional disturbances, paranoid delusions, advanced deterioration, and difficult behavior problems. These patients undoubtedly need and deserve the protection and the modern psychological and psychiatric treatment methods that are provided in an up-to-date psychiatric hospital.

Recently much progress has been made in the treatment of psychotic reactions in the aged. The previously held attitude of therapeutic nihilism for this group was based on the erroneous belief that senile organic changes described as both progressive and irreversible were the sole causes of the mental symptoms. This belief has been entirely abandoned, since more recently pathological studies have shown that there is no direct correlation between the intensity of mental symptoms and the severity of the pathological changes. In fact, many of the patients with the severest neuropathological changes were found to be free of mental symptoms during their lifetime, as reported by Rothschild [1] and others. Furthermore, attention was drawn repeatedly to the high incidence of so-called functional types of psychotic reactions that first developed late in life and that were not the result of irreversible pathological brain changes. It was also found not to be uncommon for major mental disorders to occur first in old age. Clow,[2] for instance, among 100 patients with psychosis accompanied by cerebral arteriosclerosis, found 61 who had previously in their adult years showed more or less minor symptoms of mental illness characterized mainly by sexual maladjustment and psychopathic behavior. This, then, resulted in a new therapeutic approach. In addition to other psychological and physiological methods, convulsive therapy is being more and more utilized in the treatment of aged psychotic patients, after having been proved to be a relatively safe and successful procedure. An increasing number of favorable reports of this therapy have appeared in the literature, among them reports by Robinson,[3] Bennett,[4] Wilbur and Fortes,[5] and more recently by myself.[6]

On the other hand, however, the majority of these aged patients show only mild memory defects, slight confusion, and the somewhat more exaggerated deterioration characteristic of the aging process. Their medical care and disposition presents much more complicated problems than those of the aforementioned group, and unfortunately are not solved adequately at the present time. Although the public mental hospitals have been called on to care for an increasing number of such older patients, this group of elderly patients presents a problem in itself within the institution. It has been shown, for instance, that in the state hospital these patients individually do not present any burden, but rather do collectively because of the ever increasing number of them admitted. Their individual prognosis is definitely poor, for very few of these patients can ever hope to be discharged, and within the first 12 months almost one-half of them have died. In fact, the highest death rate occurs within the first month of admission, in spite of the fact that on admission their physical health is good and average for their ages, and in spite of the probably much better medical and nursing supervision than a person of that age could expect in his own home or even in a nursing home or county farm. They are, however, as has been shown, called upon to make an entirely new emotional adjustment in a strange environment. The adjustment at this age, because of their limited mental capacity for grasping new situa-

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tions, seems almost impossible. A vicious cycle is thus set in motion as they become more emotionally disturbed and that in turn there is a detrimental, almost fatal, effect on their physical health.[7]

Thus, during recent years, various studies have appeared in the literature dealing with newer methods of treatment for this group. The methods include, to name a few, the possibility of home care for the aged, the creation of special institutions, the improvement of nursing care, the application of newer psychological treatment methods, meeting of dietary requirements, and finally therapy with various drugs.

The role of anoxia in disease is being recognized more and more, and since it has been found that the brain is also particularly sensitive to oxygen lack, it is not surprising that anoxia may lead to mental disturbances. Houston [8] in 1949 stated, "The mental signs of anoxia may be subtle and easily mistaken for primary neurologic disease. Mental confusion, emotional lability, errors in judgment, inability to concentrate, headache, or gross tremors are frequently caused by oxygen lack alone and may be a principal evidence of its presence. These signs and symptoms are often seen in elderly persons with arteriosclerosis, in patients with chronic pulmonary disease, anemia, carbon monoxide poisoning, and other conditions that cause chronic low-grade, tissue anoxia." Freyhan and co-workers,[9] using the nitrous oxide technique, studied cerebral blood flow and cerebral metabolism in patients with senility and cerebral arteriosclerosis. They concluded that their data as a whole strongly suggest that the senile psychoses, including those associated with cerebral arteriosclerosis, are associated with and are probably the result of a significant reduction in cerebral oxygen utilization caused by increased cerebrovascular resistance and the resultant significant reduction in blood flow through the brain. However, it should be mentioned at this point that elderly, nonpsychotic persons also have relative cerebral anoxia and that no correlation could be made between readings obtained and mental symptomatology.

Consequently, a great deal of importance was attached to cerebral anoxia as the factor responsible for the mild mental symptoms in the aged, and various therapies were introduced with the ultimate goal of correcting this factor. On the basis of experimental work with respiratory enzymes, it was found that cytochrome C, for instance, might be employed in the problems of tissue anoxia, acute and chronic, and to meet many cellular needs, especially during attempts at regeneration of nerve cells. It was argued that these conditions would seem to be outstanding in the presenile and senile brain, with or without arteriosclerosis, where ganglion cells undergo the typical changes of involutional atrophy and degeneration with interactions of parenchyma and neuroglia that are subject to much variation. On the basis of this reasoning, Garnett and Klingman [10] in 1949 reported the results of a biochemical experiment with cytochrome C in 17 patients with presenile, senile, arteriosclerotic, and involutional states. Their results showed that, of the 17 patients observed, 11 were thought to show clinical improvement and 6 to show none during and after injections of cytochrome C. The clinical improvement in their series was noted in a majority of cases in regard to memory, orientation, irritability, interest, confusion, and behavior. They observed only slight changes in the electroencephalographic recordings and stated that these changes may be insignificant. Psychometric examinations showed qualitative improvement in keeping with clinical improvement and a trend toward higher scores. On the other hand, Forster [11] in 1951 reported the results of treatment with cytochrome C in cases of senile and arteriosclerotic dementia and stated that it was not possible to demonstrate any significant improvement in the treated group compared to the control group that received injections of normal saline solution.

Pentylenetetrazol (Metrazol), a synthetic organic tetrazole compound, has long been effective in respiratory and circulatory stimulation. Pharmacologically it is said to exert an intense stimulating action on the central nervous system. It acts primarily on the higher centers of the brain, particularly on the respiratory, vasomotor, and vagal centers of the medulla, but all parts of the cerebrospinal axis are stimulated to some degree. Its analeptic action is said to be most evident when the higher centers are depressed owing to narcotic drugs, including the barbiturates and alcohol, or to illness or to old age.[12]

On the basis of these facts, Chesrow and co-workers [13] argued that "one might expect that metrazol by stimulating the respiratory center in the aged would improve pulmonary ventilation and indirectly the circulation and so help to overcome the anoxia frequently present in the aged, the depressed and the fatigued. At the same time the analeptic action of the drug and its ability to increase nerve impulse transmission should act as a general tonic so that the patient might well have an increased sense of well-being, be less depressed and perhaps also less confused." They gave pentylenetetrazol orally in arteriosclerosis associated with senility and selected for their study 32 cases of advanced arteriosclerosis with definite evidence of mental confusion. Pentylenetetrazol was given orally in an average dose of 1 or 2 tablets four times a day, and the authors reported excellent results in 4 cases, marked improvement in 8, fair improvement in 10, some improvement in 4, and no improvement in 6 cases. They concluded that "judging from this rather small series of cases metrazol is an effective and safe analeptic and of definite value in geriatric practice." Similar favorable results with the oral use of pentylenetetrazol were reported by Fong [14] at the gerontological meeting in September, 1952, at Washington, D. C. Dr. Fong chose very disturbed, almost psychotic patients, and 48% of them showed definite improvement, especially in becoming more amenable to ward discipline. Suter [15] and Linden and Courtney [16] were also able to confirm the beneficial effects of pentylenetetrazol given orally to mentally confused persons. More recently Swenson and Grimes [17] reported on the oral use of pentylenetetrazol, especially as it affects behavior, in 25 hospitalized patients. They found no statistically significant differences in a comparison of the pretreatment and post-treatment rating, but stated that subjective reports of patients and ward personnel indicated that certain observable changes may have occurred. Some of the patients receiving pentylenetetrazol slept better, were more active on the ward, and displayed less antisocial behavior. They claimed that further study using different rating techniques and larger doses of pentylenetetrazol seems indicated.

Following the successful use of nicotinic acid in relieving mental symptoms of pellagra, this drug soon was applied in the treatment of a number of psychiatric syndromes, particularly organic psychoses of varied etiology. Cleckley, Sydenstricker, and Geeslin [18] obtained beneficial results from the use of nicotinic acid in a group of patients with organic psychoses who showed no typical signs of pellagra but did present some evidence of malnutrition. Later Sydenstricker and Cleckley [19] reported that nicotinic acid had proved effective in the treatment of another group of patients with organic psychoses, two-thirds of whom were in the senile or presenile age range and in none of whom was there any suspicion of pellagra. On the basis of their studies, these workers concluded that a therapeutic trial with nicotinic acid was indicated in confusional psychosis attributed to cerebral arteriosclerosis or senility, or in toxic psychosis, exhaustion delirium, and other confusional psychoses of doubtful etiology. More recently Caldwell and Harwick [20] and Lehmann,[21] among others, expressed the opinion that nicotinic acid is of value in the treatment of organic psychosis attributed to cerebral arteriosclerosis or senility. The rationale of this treatment is based upon the now generally accepted hypothesis that nicotinic acid may produce its beneficial effect in many confusional states by means of cerebrovasodilatation, as originally advanced by Moore [22] and Aring and co-workers.[23] More recently, however, Scheinberg [24] exploring other scientific techniques of investigation, concluded that nicotinic acid does not cause cerebral vasodilatation. It was also argued that many aged persons also have evidence of deficiency of nicotinic acid so that they can benefit from its administration. More recently Gregory [25] determined the efficacy of nicotinic acid in psychoses of senility. He studied 54 patients and found that the prognosis with nicotinic acid therapy appears to be correlated with age; the younger the patient the better his chances of recovery. He found that marked improvement occurred in about 50% of patients under 65 years of age and in only about 10% of those over 65 years of age. He also stated that nicotinic acid is most beneficial in confusional states and psychoses of recent onset, and that it must be administered promptly because reversible changes in cellular function are followed quite rapidly by irreversible structural changes. Thus, on the basis of this study, Gregory suggests that nicotinic acid may be of more benefit in prophylaxis than in cure, since according to him some deficiency of nicotinic acid is believed to be one of the etiological factors involved in the development of psychoses in the aged.

Histamine, because of its vasodilatory properties, has also been used in cases of cerebral arteriosclerosis with the hope of improving the cerebral circulation; however, Taylor [26] was unable to produce any beneficial changes with its use. More recently Moore and co-workers [27] reported on the combined histamine-nicotinic acid therapy and claim excellent results with this method. They stated, "We believe intravenous histamine-nicotinic acid dilation therapy actually improves the function of physiologically impaired or non-functioning brain cells. Whether this is a result of increased cardiac output, increased vasodilatation of cerebral vessels, increased capillary permeability, or an actual physiological action on the cells we do not know." They claim that 23 of 24 patients were greatl improved; 21 were able to leave the hospital, many o them being engaged successfully in various types of worl

Tolazoline (Priscoline) given in 25 mg. doses for times daily for four weeks has also been employed in th treatment of confusional states and psychotic reaction among the aged.[28] However, the report indicates that th psychotic symptoms of patients receiving tolazoline were not benefited by the medication.

Of the other pharmacological treatment methods ap plied for the mildly confused and deteriorated aged, ad ministration of steroid hormones has been used with mor or less success.[29] Other methods include stimulatory drug such as *dl*-amphetamine sulfate (Benzedrine), *d*-ampheta mine sulfate (Dexedrine), caffeine and ephedrine, as we as the various vitamins and proteins. However, all thes produced little, if any, improvement.

The present study, then, concerns itself with the phar macological treatment of the aged, particularly those wit only memory defects, confusion, and deterioration in th absence of more serious emotional and psychiatric dis turbances. This study was undertaken with the aim o finding a therapeutic regimen for this large group of insti tutionalized patients that is not only practical but als simple and safe. For this reason stimulatory, vasodilatory and enzymatic drugs were investigated.

MATERIAL AND METHOD

Thirty male patients were used in this study, and thes patients served as their own controls. Their ages range from 61 years of age to 88 years of age, the average ag being 74 years. The patients were selected because of th presenting clinical picture of marked memory defec confusion and deterioration, and mild behavior disorders but without overt symptoms of serious emotional an psychiatric disturbances. These patients fall into variou diagnostic categories, more than two-thirds having a diag nosis of either arteriosclerosis or senility. The exact diag nostic classification of the 30 patients is as follows:

Chronic brain syndrome associated with arteriosclerosis with behavioral reaction	12
Chronic brain syndrome associated with senile brain disease with behavioral reaction	8
Chronic brain syndrome associated with senile brain disease associated with psychotic reaction	1
Chronic brain syndrome associated with circulatory disturbance with behavior reaction	2
Paranoia	1
Paranoid state	1
Schizophrenic reaction, paranoid type	4
Manic depressive reaction, depressed type	1
Total	30

As can be seen, some of the patients fall within the diagnostic classification of functional disorders such as schizophrenia of long-standing. These were purposely included because in most of them the so-called senile changes overshadowed their original mental disturbances, and their overt behavior was entirely in correspondence with their aging process and not with the symptomatology of their original mental disorder. The average length of stay in the hospital of this group of patients was 7 years, with the shortest stay 9 months and the longest over 40 years.

Cytochrome C parenterally, pentylenetetrazol orally, nicotinic acid orally, either alone or in combinations of two or three, and placebos identical in appearance and given by the same route were administered to the same group of patients. Cytochrome C was administered according to the method described by Garnett and Klingman. After a negative skin test, 1 cc. of cytochrome C was given intravenously. On the following day 2 cc. were given intravenously, on the third day 3 cc., and thereafter 5 cc. daily for a total of 15 days. Pentylenetetrazol, on the other hand, was given orally in tablet form, the dose being two tablets three times a day, or a 24-hour total of 9 grains (0.6 gm.) for a period of 30 days. Nicotinic acid was also given orally, the dosage being 100 mg. three times a day for 30 days. Placebos identical in appearance and administered by the same route were given for a period of three weeks in between the various courses of drug therapy. It was then decided to combine the various drugs, and for 21 days the patients were given an elixir of pentylenetetrazol and nicotinic acid. This elixir per drachm contained 3 grains (0.2 gm.) of pentylenetetrazol and 100 mg. of nicotinic acid in a vehicle of compound pepsin elixir. One drachm of the elixir was given three times daily. In other words, each patient received 0.6 gm. of pentylenetetrazol and 300 mg. of nicotinic acid in a 24-hour period. Finally, for a period of 21 days 5 cc. of cytochrome C were given daily in addition to the daily dose of elixir containing pentylenetetrazol and nicotinic acid.

Complete physical and neurological examinations, electroencephalograms, chest roentgenograms, complete blood counts, urinalyses, and determinations of the sedimentation rate, the nonprotein nitrogen, creatinine, icteric index, lactic acid, and fasting blood sugar were done prior to the start of the investigation, at the end of each period of drug as well as placebo administration, and following the termination of the investigation. Psychometric examinations using the verbal scale of the Wechsler-Bellevue, both forms 1 and 2, as well as electroencephalographic tracings were made at the same intervals. The chest roentgenograms were interpreted by the consulting roentgenologist, electrocardiograms by the consulting cardiologist, and the electroencephalograms by the staff encephalographer. Psychometric examinations were conducted by graduate students of the department of psychology of Washington State College, Pullman, Wash. None of these interpreters had any knowledge of the type or amount of therapy being administered to these patients. Daily clinical observations were made by the psychiatric aides, and they were recorded on a revised Malamud-Sands Worchester Rating Scale. The original Worchester Rating Scale was used by the supervisor, who checked the patients' behavior twice weekly, and also by the ward physicians, who checked the patients' behavior once weekly. These observers were aware that this particular group of patients were subject to an experimental investigation; none of them, however, had any knowledge of the type or amount of therapy being given. It should also be mentioned that these patients remained in the same ward environment as their fellow patients who did not participate in the study, and their daily routine during the testing periods was the same as previously. No other medicament except an occasional sedative at bed time was administered.

The original Worchester Rating Scale as modified by Malamud and Sands was modified for use by the psychiatric aides. Of the 19 points to be checked on the original scale, only 12 of these were utilized by us in a simplified form as shown in table 1.

Originally the study was started with 30 patients, but one of the patients died suddenly of coronary occlusion during the investigation, so that the study was completed with only 29 patients. Psychological testing could be carried on in only 24 of the 29 patients and in only 20 of the 29 patients was it possible to obtain a complete series of satisfactory electroencephalographic tracings. The daily, twice weekly, and weekly observations as well as the laboratory tests, chest roentgenograms, and electrocardiograms were made on the complete series of 29 patients.

TABLE 1.—*Revised Malamud-Sands Worchester Rating Scale**

Appearance	Neat Careless
Personal Habits	Able to Attend to Needs Has to be Assisted
General Activity	Active Quiet
Sociability	Mixes With Others Does Not Mix
Attention	Alert Dull or Indifferent
Mood	Elated Even Depressed
Feelings	Too Sensitive and Irritable Easy Going Too Indifferent
Speech	Spontaneous Uncommunicative
Memory	Good Fair Poor
Work	Willing Disinterested
Eating Habits	Spontaneous Eating Feeding Problem
Sleep	Restful Restless

* One factor for each category was to be checked; that is, the factor that most closely described the patient and his activity.

RESULTS OF STUDY

The results of this study are summarized in table 2. From this table it can be seen that the most important changes occurred following the administration of the elixir containing pentylenetetrazol and nicotinic acid. This elixir produced a marked improvement in the behavior of the patients as seen on the rating scale, a better performance on psychological tests, an improvement in the physical health of the patients through gain in weight, and restoration to normal of previously abnormal lactic acid values of the blood. In addition, some of the electroencephalograms that were abnormal at the beginning of the study returned to normal. Other important findings shown on this table indicate that, following administration of cytochrome C, there was a drop in the blood count and hemoglobin that produced a mild to moderate secondary anemia; also the behavior of these patients as seen on the revised Malamud-Sands Worchester Rating Scale seemed slightly deteriorated as compared to the basic evaluation. On the other hand, following the administration of (1) pentylenetetrazol orally, (2) cytochrome C (3) nicotinic acid orally, (4) the combination of cytochrome C plus the elixir of pentylenetetrazol and nicotinic acid, and (5) the administration of placebos, no significant clinical or laboratory changes occurred.

The influence of the various drugs on the different behavior characteristics, as seen on the revised Malamud-Sands Worchester Scale, is shown in table 3. It should be mentioned here that the scoring of all three independent observers corresponded in about 85% of the cases, so that the findings given on table 3 are the pooled results of these independent observations. From this table it can be seen that the improvement in the rating scale following administration of the elixir of pentylenetetrazol and nicotinic acid was present in almost all checked factors, while the other drugs produced no or very variable and only insignificant changes.

The chart indicates the percentage of patients showing improvement in each of the 12 behavior factors following the administration of the elixir of pentylenetetrazol and nicotinic acid. It can be seen from this chart that the greatest improvement occurred in what is described as feelings. Seventy per cent of the patients who were previously described as too sensitive or irritable became easy going following the administration of the elixir. Fifty-two per cent of the patients who previously did not mix well with others became more sociable and mixed well with other patients. After this treatment 48% of the patients who previously had to be assisted with their personal needs were able to take care of their personal hygiene and to attend to their personal needs alone. In general appearance 41% improved, and they became neat while previously they were careless. Thirty-eight per cent became more alert, and 31% showed improvement in both memory and general activity. The factors least affected were what is described as interest in work and eating habits; only 14% of those who had been feeding problems improved and were able to feed themselves spontaneously.

Lactic acid values, which were abnormal in over 85% of this group before the investigation was started, became normal in all but one of the patients following the administration of the elixir. This might be due to the improvement in behavior that resulted in greater activity and thus indirectly affected the circulatory system. On the other hand, only slight and insignificant changes occurred in the lactic acid values after the administration of pentylenetetrazol, the elixir of pentylenetetrazol and nicotinic acid, and cytochrome C. After the administration of the elixir of pentylenetetrazol and nicotinic acid, all patients subjectively stated that they felt much better physically and this was objectively confirmed by the gain in weight ranging from 2 to 8 lb. (907 to 3,629 gm.) in over 75% of the patients. On psychological examinations with the Wechsler-Bellevue there was an average gain of 6 points in the intelligence quotient following the administration of the elixir of pentylenetetrazol and nicotinic acid. This gain was probably due to the increase of attention and improvement of feelings of the patients. They were able to concentrate better on the tests and took more interest in them. This gain becomes even more marked when this group of patients was divided into those suffering from long-standing functional psychoses such as types of schizophrenic reactions and those suffering from cerebral arteriosclerosis or senility. In the latter group, the so-called organic group, there was an average improvement in the intelligence quotient of 9 points, while the so-called functional group showed only an average improvement

TABLE 2.—*Changes* Observed After Administration of Drugs and Placebos*

	Cytochrome C	Pentylene-tetrazol Orally	Nicotinic Acid Orally	Elixir †	Cytochrome C and Elixir †	Placebo
Physical findings	0	0	0	++	0	0
Electrocardiogram	0	0	0	0	0	0
Chest roentgenograms	0	0	0	0	0	0
Electroencephalograms	0	0	0	+ to ++	0	0
Complete blood count	— to ——	0	0	0	±	0
Sedimentation rate	±	±	±	±	±	±
Nonprotein nitrogen	0	0	0	0	0	0
Creatinine	0	0	0	0	0	0
Icteric index	± to —	0	±	±	±	±
Lactic acid	0	+	0	+++	± to +	0
Blood sugar	0	0	0	0	0	0
Urine	0	0	0	0	0	0
Clinical observation ‡	—	+	± to +	+++	0	0
Psychometric evaluation	0	0	0	++ to +++	0	0

* 0 = no change; + = slight improvement; ++ = moderate improvement; +++ = marked improvement; ± = too variable; — = slight decline; —— = moderate decline; ——— = marked decline.

† The elixir of pentylenetetrazol and nicotinic acid.

‡ Based on the Malamud-Sands Worchester Rating Scale.

TABLE 3.—*Behavior Changes* Following Administration of Various Drugs and Placebos as Seen on the Revised Malamud-Sands Worchester Rating Scale*

	Cytochrome C	Pentylene-tetrazol	Nicotinic Acid	Elixir †	Cytochrome C and Elixir †	Placebo P
Appearance	0	0	0	+	0	0
Personal Habits	—	0	0	+	—	0
General Activity	0	+	+	+	+	0
Sociability	—	+	0	+	—	0
Attention	—	+	0	+	0	0
Mood	—	0	+	+	0	0
Feelings	—	—	0	+	0	0
Speech	—	0	0	+	0	0
Memory	0	0	0	+	0	0
Work	0	0	0	0	0	0
Eating Habits	—	+	0	0	0	0
Sleep	0	0	0	+	0	0

* + = better; 0 = no change; — = worse.

† The elixir of pentylenetetrazol and nicotinic acid.

of 2 points. This might be due to the fact that in the functional group deterioration had occurred because of the long duration of the illness that seemed to a certain point irreversible.

As mentioned previously, a complete series of satisfactory electroencephalographic tracings was obtained on only 20 patients of this group. Thirteen, or 65%, of these tracings were considered normal and were not affected by any of the drugs and placebos. This is approximately the same incidence of normal electroencephalograms among arteriosclerotic and senile persons as has been reported in the literature.[30] Seven, or 35%, of the total were abnormal. Three, or 15%, of the total group, or 43% of the abnormal electroencephalograms became normal following the administration of the elixir of pentylenetetrazol and nicotinic acid, while four remained unchanged. The abnormalities in these three tracings, which were of the paroxysmal type, disappeared following the administration of this elixir.

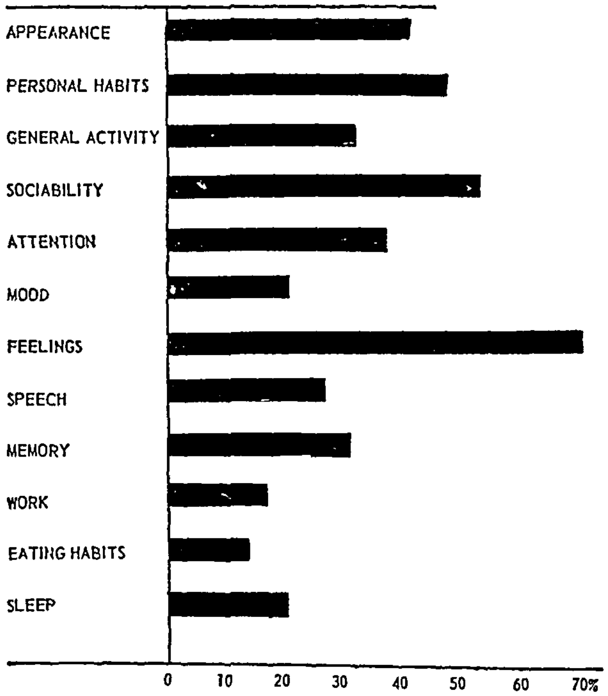
No correlation could be made in regard to the age of patients; in other words, the improvement obtained following the administration of the elixir was present regardless of the age of the individual patient. This would be somewhat in variance with the findings of Gregory,[25] who found that the improvement with nicotinic acid is closely related to the age of the patient. However, it should be mentioned that this author used nicotinic acid alone and not in combination with pentylenetetrazol.

SUMMARY AND CONCLUSION

The value of various stimulatory, vasodilatory, and enzymatic drugs in the treatment of aged persons hospitalized in a state hospital for the mentally ill was studied. It was found that the greatest improvement for this type of patient was obtained with a combination of pentylenetetrazol (Metrazol) and nicotinic acid. These drugs were combined in an elixir containing per drachm 3 grains (0.2 gm.) of pentylenetetrazol and 100 mg. of nicotinic acid with compound pepsin elixir as the vehicle. It was given in doses of 1 drachm three times a day. This elixir produced physical improvement in the patients both objectively and subjectively, produced a marked improvement in their behavior and a better performance on psychological testing with an increase in the intelligence quotient, restored to normal previously abnormal blood lactic acid values, and restored to normal some of the previously abnormal electroencephalographic tracings. Cytochrome C on the other hand, which previously has been said to be of value for this type of patient, has not shown beneficial effects, at least in the doses administered in this study. In fact, it was found that, after administration of cytochrome C, there was not only a slight deterioration in the patients' behavior but also a tendency toward secondary microcytic anemia.

On the basis of this study it is, therefore, felt that the combination of pentylenetetrazol (an analeptic) and nicotinic acid (a vasodilator) is of value in the treatment of aged patients hospitalized in an institution for the mentally ill. It is particularly helpful for those with only mild memory defects, confusion, and deterioration in the absence of more serious emotional and psychiatric disturbances. It seems especially helpful in combating symptoms of abnormal behavior, and those are the symptoms that are most objectionable to the family members and relatives. On the other hand, symptoms pertaining to intellectual impairment are not combated so effectively with this combination of drugs. This might be due to the fact that intellect and memory are first to suffer, while personality and behavior changes occur later. Thus it may be assumed that the former phenomena depend on more definite organic changes that may be irreversible, while the latter symptoms, those dealing with impaired behavior, to some extent may still be reversible.

This combination has proved safe and simple as well as practical and inexpensive, and thus can be used without hesitation on an ambulatory basis. With its use it should be possible to ease the burden of caring for the mildly confused and mildly deteriorated aged patients in public and private psychiatric institutions. Thus a smaller proportion of hospital personnel and budget would be needed for what previously amounted only to custodial care of this group of patients. This saving would eventually enable the mental hospital to return to its primary function, namely, the treatment and rehabilitation of younger mentally ill patients, instead of becoming a purely custodial organization for the aged. Since many of the aged persons studied showed only the commoner evidences of simple deterioration, only modification of the conditions for which this elixir has proved successful was required. Many of these patients, with the aid of this elixir, or possibly similar acting drugs would therefore not inevitably have to be committed to psychiatric institutions and could be permitted to live in the community with safety and without harm to others.



Percentage of patients studied in whom changes according to the Revised Malamud-Sands Worchester Rating Scale were observed.

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ERYTHROMYCIN IN LOCAL TREATMENT OF CUTANEOUS BACTERIAL INFECTIONS

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Erythromycin, discovered by McGuire and his associates [1] in 1952, is a new antibiotic produced by a micro-organism (identified as a strain of Streptomyces erythreus) that was isolated from a soil sample collected on the Island of Panay, Philippine Islands. This antibiotic is white, crystalline, soluble in water to the extent of about 2 mg. per milliliter, and highly soluble in some organic solvents, such as alcohol and acetone. It is a basic compound with an empiric formula that is thought to approximate $C_{39}H_{73}NO_{13}$; there is no benzene ring structure in the formula. Stability data indicate that the dry crystalline compound is stable at room temperature for at least a year, but solutions of the antibiotic are comparatively unstable. The best stability is achieved with low temperature and neutral pH. At room temperature with a pH of 7, 86% activity remained after a storage period of 24 hours, whereas no activity remained after the same period of time with a pH of 4.[2]

Erythromycin is effective by mouth, and currently this is the only systemic route of administration. The recommended dosage schedule for adults is from 300 to 400 mg. every eight hours and for children from 6 to 8 mg. per kilogram of body weight every six hours.

The original pharmacological investigation of the drug by McGuire and co-workers [1] indicates that erythromycin has a comparatively low toxicity in animals and does not affect parenchymatous organs significantly. There was no evidence of eighth nerve damage in these animal experiments. To date there has been no report of serious side-effects when erythromycin was administered to patients with various types of systemic infections, although mild gastrointestinal symptoms have been noted in some cases.[3] These symptoms, which include nausea, vomiting, diarrhea, or abdominal cramps, seem to be du to a direct action of the drug on gastrointestinal motilit

The laboratory work of McGuire and his associates Haight and Finland,[4] Heilman and his associates,[3a] ar the laboratories of the pharmaceutical houses that pr duce this antibiotic indicates that erythromycin is a wi range antibiotic with particular activity against gran positive organisms, whereas the coliform and enter gram-negative bacilli are resistant. The list of sensiti organisms includes various types of Pneumococcu groups A to G of Streptococcus hemolyticus, some strai of nonhemolytic streptococci, staphylococci, Corynebac terium diphtheriae, Clostridium tetani, Cl. perfringen Cl. septicum, Bacillus anthracis, Listerella monocyt genes, Hemophilus pertussis, Pasteurella tularensi Neisseria gonorrhoeae, and certain rickettsias and larg viruses. The list of resistant organisms includes Esch richia coli, Aerobacter aerogenes, Proteus vulgari Pseudomonas aeruginosa, and Salmonella typhosa.

The first clinical reports on the systemic administr tion of erythromycin for the treatment of various typ of infections were those of Heilman and his associates, and Haight and Finland.[3b] They reported that it wa particularly effective for the treatment of pneumococc pneumonia and hemolytic streptococcic infections suc as pharyngitis, tonsillitis, carbuncles, cellulitis, an erysipelas. These clinical results corresponded to th impressive in vitro effect of the antibiotic for the etiolog cal agents of these diseases. It is of particular intere that strains of streptococci and staphylococci that wer resistant to other antibiotics (penicillin and the broa spectrum antibiotics) were found to be as sensitive t erythromycin as the nonresistant strains.

The study here reported concerns the evaluation c erythromycin as a topical therapeutic agent. We hav observed a series of 184 patients with various types c cutaneous bacterial infections, all of whom received loca treatment with the antibiotic. We have had some experi ence with the oral administration of erythromycin i patients with extensive cutaneous bacterial infections but this will not be included in this paper. The results o in vitro tests with erythromycin and other antibiotics o numerous strains of the two bacterial organisms (Micro coccus pyogenes var. aureus, and beta hemolytic strepto cocci) that are of particular importance in cutaneous bacterial infections will be reported, and an attempt will be made to correlate these data with clinical results.

METHOD OF TREATMENT

All but a few of our patients were treated with some type of ointment preparation, the exception being the use of compresses or soaks of an aqueous solution of 0.5 mg. of erythromycin per cubic centimeter of water. Because of our previous experience with the topical

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The powdered antibiotic for the preparation of ointments, the 0.5% erythromycin ointment in base #3 (Erythroguent), and the combination of 0.5% erythromycin and 0.5% neomycin sulfate ointment (Erythromyciguent) were supplied by Dr. Harold R. Reames, the Upjohn Company, Kalamazoo, Mich.; the 1% erythromycin ointment (Erythrocin ointment 1%) was supplied by Dr. George Berryman, the Abbott Laboratories, North Chicago, Ill. The neomycin lotion was also supplied by the Upjohn Company.

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2. Brochure on erythromycin, the Upjohn Company, Kalamazoo, Mich.

3. (*a*) Heilman, F. R.; Herrell, W. E.; Wellman, W. E., and Geraci, J. E.: Some Laboratory and Clinical Observations on a New Antibiotic, Erythromycin ("Ilotycin"), Proc. Staff Meet., Mayo Clin. **27**: 285-304 (July 16) 1952. (*b*) Haight, T. H., and Finland, M.: Laboratory and Clinical Studies on Erythromycin, New England J. Med. **247**: 227-232 (Aug. 14) 1952.

4. (*a*) Haight, T. H., and Finland, M.: The Antibacterial Action of Erythromycin, Proc. Soc. Exper. Biol. & Med. **81**: 175-183 (Oct.) 1952. (*b*) Haight, T. H., and Finland, M.: Observations on Mode of Action of Erythromycin, ibid. **81**: 188-193 (Oct.) 1952. (*c*) Haight and Finland.[3b]

application of other antibiotics, we decided to use a concentration of 5 mg. of the antibiotic per gram of ointment base, although a few patients were treated with 1% erythromycin ointment (10 mg. per gram in petrolatum). In 44 of these patients, a combination of 5 mg. of erythromycin and 5 mg. of neomycin sulfate per gram of ointment base was either the only local treatment or the effect of this combination was compared with the plain erythromycin ointment. Another variable that was introduced in the ointment used for some patients was the addition of moniliostatic agents (0.2 mg. of methylparaben-U. S. P., and 1.8 mg. of n-butyl *p*-hydroxybenzoate per gram of ointment base). The ointment bases that were used included (1) white petrolatum, (2) a wool fat-petrolatum base, (3) a cholesterol-petrolatum base, and (4) Aquaphor (a hydrophilic ointment containing hydroxyl animal fats). We did not use erythromycin in a water-miscible base because of the instability of the antibiotic under these circumstances.

The patients were instructed to apply the ointment either two, three, or four times daily. In some cases, the application of the ointment was followed by bandaging of the part (usually with Surgitube gauze), and in these patients the bandage was changed twice daily. Removal of crusts and other forms of local débridement were not emphasized, and the patients were not instructed to carry out cleansing of the affected parts; this routine was followed only because we attempted to avoid as many variable factors as possible. When possible, the erythromycin preparation was applied to the lesions on one affected site, and the plain ointment base to lesions at another site; the distribution pattern and other factors made it impossible to carry out this controlled experimental approach in the majority of patients. The fact that some of these patients had had previous ineffective topical and systemic therapy served as a control in other cases.

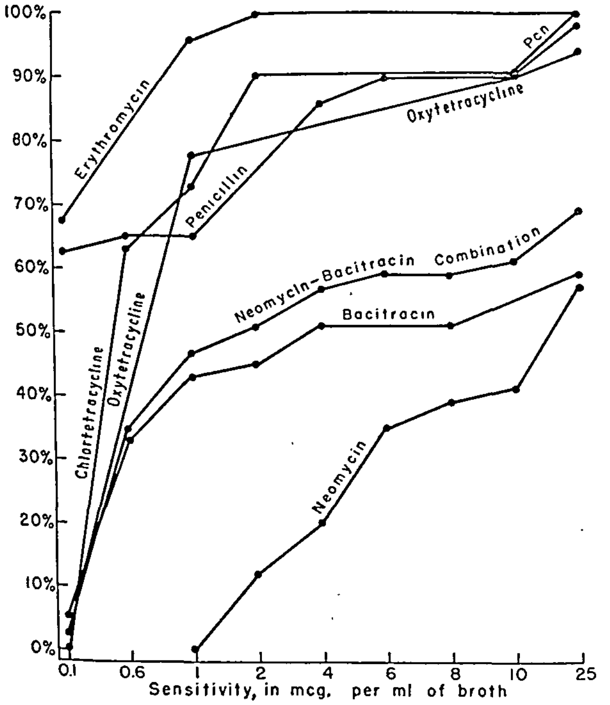

Fig. 1.—Results of in vitro sensitivity tests with various antibiotics of 60 strains of Micrococcus pyogenes var. aureus (hemolytic Staphylococcus aureus). All the strains were coagulase positive.

Bacterial cultures were done in almost all cases, and in many instances the cultures were repeated during and after the course of treatment. In vitro sensitivity tests to erythromycin, penicillin, chlortetracycline (aureomycin), oxytetracycline (Terramycin), neomycin, bacitracin, and the combination of equal parts of bacitracin and neomycin sulfate, with the standard multiple tube method, were done for 60 strains of M. pyogenes var. aureus (Staph. aureus) (fig. 1) and 49 strains of Strep. pyogenes (beta hemolytic streptococci) (fig. 2), hereafter referred to as hemolytic Staph. aureus and hemolytic streptococci. With this method the size of the inoculum is 1 by 10^6. All tests are read at the end of 24 hours. Tryptose phosphate broth was used for staphylococci, and horse meat infusion broth was used for streptococci.

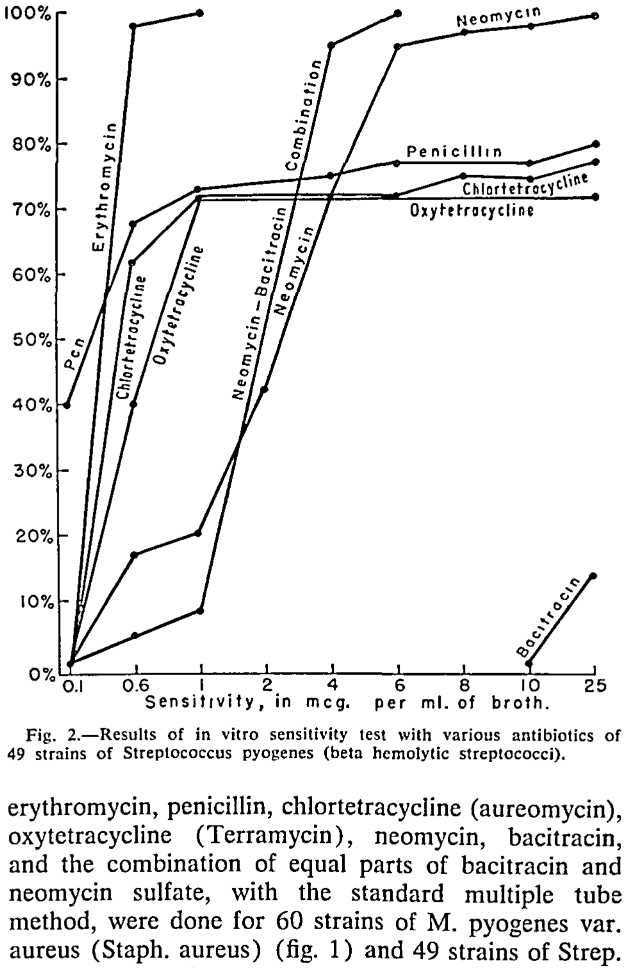

Fig. 2.—Results of in vitro sensitivity test with various antibiotics of 49 strains of Streptococcus pyogenes (beta hemolytic streptococci).

RESULTS

Our results with topical erythromycin therapy are summarized in tables 1 and 2. We did not attempt to evaluate the comparative efficacy of the various types of ointment bases, although in general we noted no significant difference. Furthermore, our experience with the combination of erythromycin and neomycin as compared with erythromycin alone was not sufficient to be of statistical significance. We did not note a superior therapeutic effect when the concentration of erythromycin was increased to 1% (10 mg. per gram of ointment base) rather than 0.5%.

Erythromycin ointment and the combination of erythromycin and neomycin sulfate ointment in all types of ointment bases studied were very effective in almost all of the 41 patients (fig. 3 and 4) with various types of primary cutaneous bacterial infections. We have not included exact data that pertain to the average number of days of treatment that were necessary to affect the clinical results, because to do so would involve the daily observation of each patient and that was not possible. However, in general, the patients with impetigo were cured within a period of from three to seven days. Those with ecthyma were cured within a period of from 6 to 14 days. The one patient with pustular folliculitis who did not improve significantly was uncooperative.

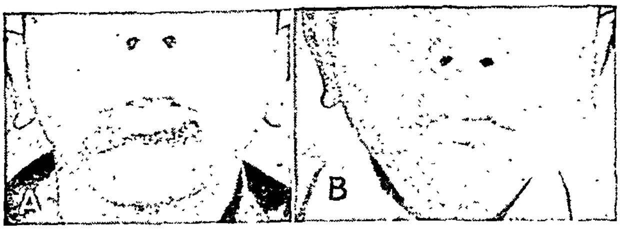

Fig. 3.—*A*, impetigo contagiosa before treatment with 0.5% erythromycin ointment applied three times daily for three days. *B*, after treatment.

As would be expected, the results in the treatment of the group of patients with various types of so-called secondary cutaneous bacterial infections, summarized in table 2, were more variable. It is necessary to emphasize that those patients whom we classified as "improved" had very satisfactory results in that the apparent bacterial infection factors was controlled completely insofar as this could be determined, but complete cure did not occur. Therefore, they were classified under the category of "improved" rather than "excellent."

It is obvious that numerous other predisposing and etiological factors must be considered in treatment of secondarily infected dermatitis of various types, otitis externa, perleche, nummular eczema, and ulcers. For example, one would not expect to effect a cure of atopic dermatitis by control of the secondary bacterial infection. We have the impression that local and systemic antibiotic therapy does not influence the course of kerion celsi significantly.

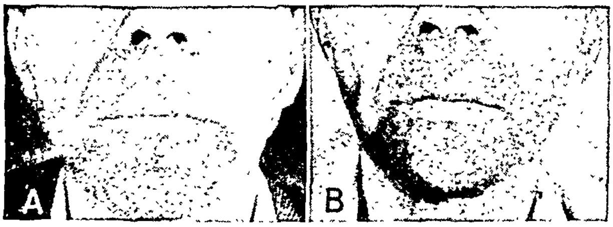

Fig. 4.—*A*, pustular folliculitis of the bearded region of three months' duration before treatment with 0.5% erythromycin ointment applied three times daily for 14 days. *B*, after treatment. Another patient with similar involvement did not have a satisfactory therapeutic result with erythromycin ointment.

It is well known that patients with nummular eczema do not tolerate greasy ointment vehicles, and it has been our experience that other antibiotic ointments are not particularly useful in the management of this condition. This must be kept in mind in interpreting the results with erythromycin ointment in this series of five patients.

It is difficult to evaluate the influence of any topical medicament in effecting the healing of removal sites. In some patients, especially those with removal sites on exposed surfaces, healing seems to proceed more promptly when no topical treatment is applied. If significant secondary bacterial infection occurs in a removal site incident to an electrocoagulation procedure, such as the treatment of an epithelioma, local antibiotic therapy may be very effective. In some cases erythromycin ointment seemed to be specific in its effect, but in other cases the application of an antibiotic in the form of a lotion effected more rapid healing of the removal site after the application of erythromycin ointment was discontinued.

Table 1.—*Results of Topical Treatment with Erythromycin of Primary Cutaneous Bacterial Infections*

Diagnosis	No. of Patients	Results: Excellent	Results: Improved	Results: Questionable	Results: No Effect	No. with Reaction to Treatment
Impetigo contagiosa	13	12	1	0	0	0
Ecthyma	14	14	0	0	0	0
Folliculitis, pustular	8	5	2	1	0	0
Furunculosis	5	5	0	0	0	0
Paronychia	1	1	0	0	0	0
Total	41	37	3	1	0	0

Table 2.—*Results of Topical Treatment with Erythromycin of Secondary Cutaneous Bacterial Infections**

Diagnosis	No. of Patients	Results: Excellent	Results: Improved	Results: Questionable	Results: No Effect	No. with Reaction† to Treatment
Impetiginized dermatitis ‡	33	18	10	1	4	0
Impetiginized eczematous dermatitis	38	7	12	6	13	2
Impetiginized atopic dermatitis	11	0	8	1	2	0
Impetiginized herpes simplex	2	2	0	0	0	0
Impetiginized cheilitis	1	1	0	0	0	0
Nummular eczema	5	0	0	1	4	1
Otitis externa	6	3	2	0	1	0
Removal sites	30	22	2	1	5	0
Ulcers	6	1	1	2	2	0
Kerion celsi	3	0	1	0	2	0
Folliculitis decalvans	1	1	0	0	0	0
Granuloma inguinale	1	0	0	0	1	0
Perleche	3	1	0	0	2	0
Achromia parasitica	3	0	2	0	1	0
Total	143	56	38	12	37	3

* In these patients, bacterial infection seemed to be an apparent complicating factor; in some patients with impetiginized eczematous dermatitis and otitis externa, bacterial infection was the possible primary etiological factor, and in many patients with impetiginized dermatitis and removal sites, the bacterial infection had delayed healing significantly.

† See the tabulation in the text.

‡ Secondarily infected contact dermatitis, superficial fungus infection, and others.

The rather high percentage of results that were classified as excellent (22 of 30 patients) must be interpreted with the reservation that this indicates only that healing occurred following the use of the erythromycin ointment; this does not mean necessarily that the treatment was responsible for more rapid healing of the lesions.

REACTIONS TO TREATMENT

Three patients had distinct, clear-cut exacerbations of their skin lesions following the application of erythromycin ointment. In each instance, the cause was traced to the erythromycin rather than to the ointment base. In two of these patients the erythromycin ointment was reapplied after the reaction had subsided, and the same sequence of events occurred. Patch tests to erythromycin ointment were positive in only one of these three patients (only two patients were tested). In the following tabulation we have summarized the other reactions (in addition to those due to erythromycin shown in table 2) that were noted in this series of patients. Both groups of patients treated with a neomycin-erythromycin combination had previously had no reaction to erythromycin ointment.

Erythromycin	3
Combination of neomycin-erythromycin (one patient with removal site and one with otitis externa)	2
Questionable reactions to neomycin-erythromycin ointment (eczematous dermatitis)	3
Ointment base containing lanolin (two patients with eczematous dermatitis and one with atopic dermatitis)	3
Apparent delayed healing of removal sites	2

RESULTS OF BACTERIAL CULTURES

The organisms that were isolated on bacterial culture in this series of patients were (1) M. pyogenes var. aureus (hemolytic Staph. aureus) in 45% of cases, (2) the combination of hemolytic Staph. aureus and Streptococci (beta hemolytic streptococci) in 28% of cases, (3) hemolytic streptococci (pure culture) in 8% of cases, (4) Staph. albus in 9% of cases, and (5) Pseudomonas, Proteus, A. aerogenes, or other gram-negative bacilli in 10% of cases.

RESULTS OF IN VITRO SENSITIVITY TESTS

In vitro tests were done for 60 strains of M. pyogenes var. aureus (hemolytic Staph. aureus) and 49 strains of Strep. pyogenes (beta hemolytic Streptococcus). All of these strains were tested to erythromycin and five other antibiotics as well as the combination of equal parts of bacitracin and neomycin. Our results are summarized in figures 1 and 2, which are self-explanatory. In addition, a few strains of Pseudomonas, Proteus, and Esch. coli were tested with erythromycin, and in all cases the sensitivity level was more than 50 mcg. per milliliter.

Analysis of these results indicates that for staphylococci the order of in vitro effectiveness of these antibiotics was erythromycin, neomycin-bacitracin combination, neomycin, chlortetracycline, oxytetracycline, and bacitracin (penicillin is not considered in this list because it is not recommended for topical application). For hemolytic streptococci the order of effectiveness was erythromycin, chlortetracycline, oxytetracycline, neomycin-bacitracin combination, bacitracin, and neomycin. It is interesting to note that, in the sensitivity tests done with penicillin, chlortetracycline, and oxytetracycline, there was very little difference in the percentage of sensitive strains through the range of concentration from 0.6 mcg. to 25 mcg. per milliliter; this was in striking contrast to the results that were recorded for neomycin and the combination of neomycin and bacitracin in that an increase of concentration from 2 mcg. to 6 mcg. per milliliter resulted in a very marked increase in the percentage of sensitive strains. This same phenomenon was noted in the case of beta hemolytic streptococci. In other words, with chlortetracycline, penicillin, and oxytetracycline, a given percentage of these strains of both staphylococci and streptococci tended to be very sensitive to the antibiotic or relatively resistant.

COMMENT

It is almost impossible to define the sensitivity of a given organism to an antibiotic when it is applied topically. One would assume that it is possible to maintain a very high concentration of the antibiotic at the site of involvement in contrast to the relatively low blood level with systemic administration of an antibiotic. In practice, however, the clinical results do not seem to follow this pattern. In most cases, it has been our experience that adequate control of the bacterial infection factor following topical application of the antibiotic may be expected if the sensitivity of the organism is of the order of magnitude of from 0.1 to 10 mcg. per milliliter; the clinical response seems to be more rapid and more predictable if the sensitivity level is not more than from 4 to 6 mcg. per milliliter. In contrast, it is our impression that the clinical results to be expected when the sensitivity level is higher than 10 mcg. are unpredictable and in general not satisfactory.

In previous papers[6] we have summarized our own experience and opinions as well as those of other investigators[7] in regard to the relative effectiveness of the various antibiotics that are available for the topical and the systemic treatment of cutaneous bacterial infections. Of the available antibiotics that are suitable for topical use, we prefer the combination of neomycin sulfate and bacitracin, oxytetracycline, chlortetracycline, and neomycin sulfate; polymyxin B is the local treatment of choice only for cutaneous infection due to Pseudomonas organisms.

The clinical results that we have summarized in tables 1 and 2 indicate that erythromycin is another effective antibiotic for the local treatment of cutaneous bacterial infections due to hemolytic Staph. aureus and beta hemolytic streptococci. The antibiotic is not effective for the gram-negative organisms, which seem to be of etiological importance in some cases; the addition of neomycin sulfate to the ointment results in a preparation that does have a gram-negative antibacterial spectrum. It appears to be at least as effective for streptococci as chlortetracycline, oxytetracycline, and the combination neomycin-bacitracin preparations and as effective for staphylococcic infections as neomycin sulfate. In a few patients with chronic impetiginized eczematous dermatitis, it was more effective in that the condition was cured or marked improvement effected after treatment with other antibiotics (both local and systemic) had failed.

We have the impression that erythromycin is slightly more irritant for denuded and eczematized skin than neomycin, bacitracin, chlortetracycline, and oxytetracycline. We do not have evidence at this time, however, that the antibiotic has a higher sensitizing potential than the other antibiotics that are recommended for topical use. Additional experience must be accumulated before the semipermanent or final place of erythromycin in our therapeutic armamentarium for the local treatment of cutaneous bacterial infections is established.

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[6] Livingood, C. S.; Nilasena, S.; King, W. C., and Stevenson, R. A.: Pyogenic Infections Treated with Neomycin, J. A. M. A. **148**: 334-339 (Feb. 2) 1952. Livingood, C. S.: Pyogenic Cutaneous Infections in Children, Texas J. Med. **47**: 469-474 (July) 1951. Livingood, C. S., and Mullins, J. F.: Management of Bacterial Infections of the Skin, Postgrad. Med. **12**: 15-26 (July) 1952.

[7] Miller, J. L.; Slatkin, M. H., and Johnson, B. A.: Evaluation of Bacitracin in Local Treatment of Pyogenic Infections, Arch. Dermat. & Syph. **60**: 106-120 (July) 1949. Sawicky, H. H.; Pascher, F.; Frank, L., and Rosenberg, B.: Therapeutic Assays of Skin and Cancer Unit of New York University Hospital: Aureomycin Hydrochloride Ointment, J. Invest. Dermat. **15**: 339-341 (Oct.) 1950. Kile, R. L.; Rockwell, E. M., and Schwarz, J.: Use of Neomycin in Dermatology, J. A. M. A. **148**: 339-343 (Feb. 2) 1952. Wright, C. S., and Tschan, D. N.: Local Oxytetracycline ("Terramycin") Therapy of Skin Infections, A. M. A. Arch. Dermat. & Syph. **67**: 125-128 (Feb.) 1953.

Finally, if a sensitizing antibiotic such as penicillin is not considered, there is close correlation between the in vitro sensitivity tests and the clinical results. In this respect erythromycin shows great promise provided an increased percentage of irritant and/or sensitization reactions does not interfere with its therapeutic effect. However, the possibility of subsequent development of resistant strains of staphylococci and streptococci must be considered.

SUMMARY AND CONCLUSIONS

Our experience with the topical use of erythromycin in the treatment of cutaneous bacterial infections is reported; a total of 184 patients is included in this series. The majority of these patients were treated with a 0.5% ointment. A combination of neomycin-erythromycin ointment was used in some cases. It appears that erythromycin is a very effective topical therapeutic agent for staphylococcic and streptococcic primary cutaneous infections; the results in secondary bacterial infections were variable. Results of in vitro tests for 60 strains of hemolytic Staphylococcus aureus and 49 strains of beta hemolytic streptococci are reported; drugs used in this in vitro study included erythromycin, chlortetracycline (aureomycin), oxytetracycline (Terramycin), penicillin, neomycin, bacitracin, and a combination of equal parts of bacitracin and neomycin sulfate. Three patients had an apparent sensitivity or irritant reaction to erythromycin, and two additional patients had a similar reaction following application of the neomycin-erythromycin combination ointment. One of the ointment bases (lanolin) was not tolerated in three other patients. It is possible that erythromycin is not as well tolerated by denuded and eczematized skin as certain other antibiotics.

SEX AND AGE IN MYASTHENIA GRAVIS AS CRITICAL FACTORS IN INCIDENCE AND REMISSION

Robert S. Schwab, M.D.
and
Charlotte C. Leland, A.B., Boston

Since the communication on removal of the thymus as treatment for myasthenia gravis was presented by Blalock[1] in 1941, there have been a number of other reports on this procedure as a therapy in myasthenia gravis. Some of these have been enthusiastic as to the benefits achieved by removal of thymic tissue, particularly when it was not associated with tumor, in producing complete or partial remission in this disease. Geoffrey Keynes has reported the largest series of such operations, nearly 200. The first 100 of his patients were studied in considerable detail by Ross,[2] who reported that the operation benefited 86 patients. There was statistical evidence that the sooner the operation was done after the onset of the disease the more favorable the result. On the other hand, Eaton and Clagett[3] reported little statistical difference in remission rate between 70 patients treated by this operation and their control group of patients that had not been treated surgically.

Schwab and Passouant[4] reported on 50 patients thymectomy, in whom the remission findings were related with sex and age. The most favorable res were found in the young female group rather tha males. Eaton[5] reported a reevaluation of the result thymectomy in his series, and indicated that there new evidence that made him feel that the operation duced a greater percentage of remissions than in the trol series, but he was not quite satisfied with the statist analysis of this material. There still is, therefore, s question as to the precise value of thymectomy in m thenia gravis in spite of study of adequate number patients subjected to the procedure and compariso these results with a control series.

Since there was a difference in response to the op tion in females and males, we plotted the onset of the ease according to decades in the two sexes in a total gr of 367 patients on whom we had accurate informat about the date of onset (fig. 1). This showed a signific and surprising difference between males and fema The disease developed in 62% of the 202 females bef the age of 31. In contrast to this early beginning in females, in the 167 males the onset occurred bef the age of 30 in only 27%. For females the mode (21 onset age was 21 to 25 years, whereas for males the m (30%) onset age was 61 and over.

The significance of this sex difference in onset is once apparent in the various series of thymectomy ca reported in the literature, and in all of them there two or three times as many females as males. This wo be the obvious result of random selection of the surg cases, since the most favorable subject for a serious

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[1] Blalock, A.; Harvey, A. M.; Ford, F. R., and Lilienthal, J. L., Jr.: Treatment of Myasthenia Gravis by Removal of Thymus Gland: Preliminary Report, J. A. M. A. 117: 1529 (Nov. 1) 1941.

[2] Ross, R. T.: Thymectomy in Treatment of Myasthenia Gravis, Lancet 1: 785, 1952.

[3] Eaton, L. M., and Clagett, O. T.: Thymectomy in Treatment of Myasthenia Gravis, Results in 72 Cases Compared with 142 Control Cases, J. A. M. A. 142: 963 (April 1) 1950.

[4] Schwab, R. S., and Passouant, P.: Les indications de la thymectomie au cours de la myasthénie, Presse méd. 60: 1501, 1952.

[5] Eaton, L. M., and Bastron, J. A.: Thymus Gland and Its Relationship to Diseases of Nervous System, in Metabolic and Toxic Diseases of the Nervous System, A. Res. Nerv. & Ment. Dis., Proc., vol. 32, to be published, 1953.

eration such as thymectomy would be the younger patients. In our group of 78 patients, 53 were females and 25 were males.

In analyzing our data, we used controls that matched the thymectomy patients by sex, age of onset (within five years), severity of disease, and presence or absence of thymoma. These factors had all been found important in determining the good effects of thymectomy. The 78 controls were selected from a group of 250 myasthenia gravis patients. The influence of these variables was then compared. Patients in both groups were classified as to the presence of a remission as follows:

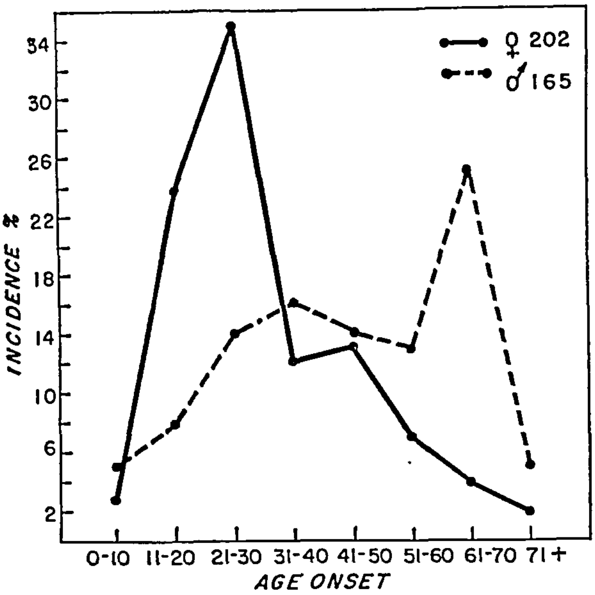

Fig. 1.—The distribution by decades of the onset of myasthenia in 367 patients.

A. This group had a complete remission. They no longer required any medication and had no symptoms.

B. This group was significantly and objectively improved, took less medicament, and had fewer symptoms. Medical referees would all agree as to the presence of improvement.

C. In this group were included patients with various degrees of slight to moderate improvement, which was subjective oftener than objective, difficult to evaluate quantitatively, and would not convince skeptical referees.

D. This group consisted of patients whose symptoms were unchanged or worse.

E. This group included the patients who died. The operative deaths and deaths from myasthenia were grouped together.

RESULTS

There was no significant mathematical difference in remission rates in relation to age or sex in the patients who had thymomas that were removed. In male patients subjected to thymectomy there was an A or B remission rate of 24% compared to a remission rate of 56% in males who did not have a thymectomy. Males subjected to thymectomy had the lowest remission rate and the highest mortality rate (table 1).

The A or B remission rate of females subjected to thymectomy was 63% contrasted with an AB remission rate of only 34% in those not subjected to surgery. This difference is statistically valid at the 1% level when tested by the Chi square formula. The mortality rate is correspondingly different for the two groups, the controls having nearly twice the mortality rate of the females subjected to thymectomy (28% vs. 15%). Figure 2 shows this in graphic form. In 44 females without thymomas, the A or B remission rate was 68%. These figures are conservative, as exclusion of thymoma cases raises the

Table 1.—*End Results* of Myasthenia Gravis With and Without Thymectomy*

Females

With Thymectomy	No. of Patients		%	Control	No. of Patients		%
A	11	33	63	A	7	18	34
B	22			B	11		
C	4	12	22	C	13	20	38
D	8			D	7		
E	8	8	15	E	15	15	28
Total		53	100	Total		53	100

Males

With Thymectomy	No. of Patients		%	Control	No. of Patients		%
A	2	6	24	A	4	14	56
B	4			B	10		
C	5	11	44	C	4	6	24
D	6			D	2		
E	8	8	32	E	5	5	20
Total		25	100	Total		25	100

* AB vs total in female groups significant at 1% level.
AB vs total in male groups significant at 5% level.
AB vs E (deaths) in both groups significant at 5% level.
E vs total is not significant in both groups.

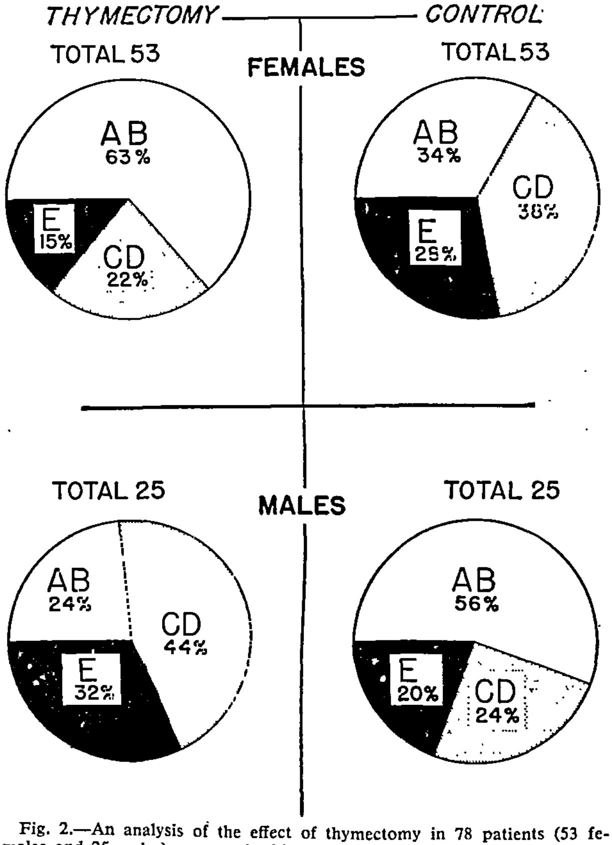

Fig. 2.—An analysis of the effect of thymectomy in 78 patients (53 females and 25 males) compared with a similar group of controls. Note the better remission rate and lower mortality in the females subjected to thymectomy as compared to the controls. The reverse was true of the males.

AB remission rate of the females subjected to thymectomy and lowers the mortality rate. We avoid comparison of the groups that did not have thymomas, as it is possible that some controls had thymomas that were not detected on chest roentgenograms.

It was suggested that we determine the remission rates at some specific time after thymectomy to see if they differ significantly from the end result figures. In 44 females without thymomas, for example, 59% could be classified in groups A or B within one year of the operation. There is no significant difference between the rates found within one year and those shown in table 1.

Table 2.—*Relation of AB Remission Rate to Total Known Duration of Myasthenia in Patients Subjected to Thymectomy and Controls*

	Females						Males					
	With Thymectomy			Control			With Thymectomy			Control		
Duration, Yr.	No. of Patients	No. with AB Remission	%	No. of Patients	No. with AB Remission	%	No. of Patients	No. with AB Remission	%	No. of Patients	No. with AB Remission	%
0-3	12	7	58	21	8	38	8	2	25	7	3	42
4-7	25	17	68	19	3	16	5	1	20	5	3	60
8+	16	9	51	13	7	54	12	3	25	13	8	62

A study of the duration of illness from the onset to the time thymectomy was done showed that a duration of none to four years is apparently beneficial for females (not significant to 5% level) but not for males. These groups were analyzed as to age of onset to see whether more young patients were included in the short duration group, thus causing the increased benefit. This was not so, since the group of females with shorter duration was complicated by more thymomas and older patients. This agrees with the conclusion of Keynes that early intervention increases the remission rate. One should note that more of his patients were females in a ratio of 3: 1, and we believe that early intervention increases the remission rate only for the females. Table 2 illustrates this finding.

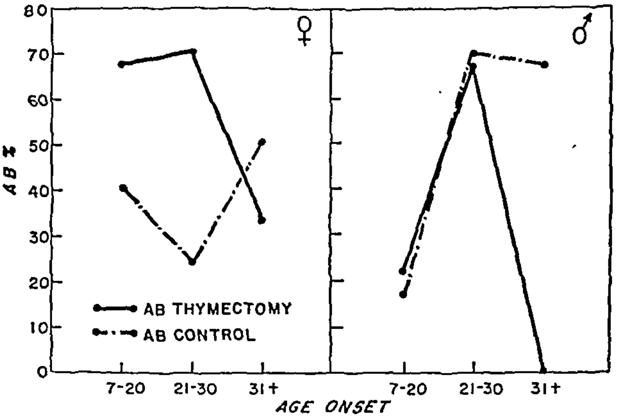

Fig. 3.—The rate of AB remissions in relation to age of onset in the two sexes, in patients subjected to thymectomy, and in control groups. Note that there is no significant difference between the second and third decades in the group subjected to thymectomy, but the remission rate is worse in the controls between the ages of 20 and 30. There is a sharp drop in the remission rate in females over 30 who have been subjected to thymectomy. Before the age of 30 there is no difference in the remission rate of males subjected to thymectomy and the controls, but there is a sharp decrease in the benefits of the operation in males over 30.

Female thymectomy patients who have had their disease over seven years had slightly less improvement than their controls. This figure suggests that a female having myasthenia gravis for that length of time would be better off without thymectomy. Male controls tended to improve with the passage of time. This natural tendency to improve was offset in the thymectomy cases.

The exclusion of thymoma cases raises the AB remission rates (except for males) and lowers the death rate. The thymoma patients of both sexes who did well had mild myasthenia. Male patients with or without thymomas who were subjected to thymectomy had the same low (24%) rate of AB remissions, although the mortality rate for all males (32%) is nearly double that of the group without thymomas (18%). Thymomas were present in 29% of males in whom the onset was before age 31 and in 36% of those over 30. The radical drop in AB remissions for males over 30 (statistically significant at the 1% level) is not due to the presence of thymomas, nor is there an increased proportion of severe cases in the older group.

Of the female thymectomy patients, only 5% of those under 31 and 78% of the older patients (a total of nine) had thymomas. The high proportion of thymomas in older females probably explains their poorer result. Thymectomy in patients with thymoma lowered the remission rate for females, did not alter it for males, and raised the death rate for both. Thymectomy is of uncertain value as a therapeutic measure in myasthenia gravis in all patients with demonstrable tumors such as thymomas and in all males.

The method of selection of patients for thymectomy depended partly on chance, economic reasons, and random persuasion in different periods by a number of different physicians, with a large number of variables. There has been, however, a trend toward selection of younger patients. In the period 1938-1945 in 44% of patients of both sexes combined the onset was after 30, whereas for 1946-1953 only 21% were of the older group. There has been a change in the proportion of males to females operated upon from 12 of 17 (71%) for the earlier period to 13 of 48 (21%) for the later period. Fewer patients with thymomas were selected in the later period, especially among males, where the proportion dropped from 42% to 23%. The decrease in patients with thymomas and in older patients and the increase in females are factors in the improvement of the results of thymectomies over the years.

The value of thymectomy in the females under 30 is compared to spontaneous improvement in the control group in figure 3. In the male group there is no difference in results in the surgical and control groups of patients under 30 years of age. In males over 30, the operation seems contraindicated, as shown in this figure.

COMMENT

In spite of the positive statistical correlation in these groups of cases, particularly in the group of females subjected to surgery as opposed to the controls, some investigators feel that the benefit of this chest operation in myasthenia patients may be due to the stress effect of the procedure. One can dismiss this, because myasthenia patients who have had major operations such as hysterectomy, or those who have suffered major fractures from accidents, emotional stresses, severe financial catastrophe, or death of loved ones, show a contrary effect under the stress of such trauma. Universally they show an increase in myasthenia symptoms and require more medication. They return to their previous condition only after a lapse of time. Of 30 patients who encountered such stressful situations, 28 showed a temporary increase in their disease.

Some clinicians are skeptical that there is any relation at all between myasthenia and the thymus gland. According to our figures, 17 (22%) of 78 patients subjected to thymectomy had thymomas. In Rowland's[6] series of 35 cases of death due to myasthenia, there was a 31% incidence of thymomas. The incidence of thymomas in ordinary postmortem examinations (in cases without myasthenia) is less than 1/10 of 1%. In our thymectomy cases, 60% of patients who did not have thymomas had abnormal thymic tissue in the sense that there was hyperplasia or presence of germinal center formations. The relationship seems indisputable. In view of the poor results of thymectomy in patients with thymomas and in male patients irregardless of pathology, it is likely that the causal agent is not the thymus itself but another endocrine disturbance that may cause both the thymic abnormalities and the myasthenia.

In our series of patients we feel that we have sufficient data to warrant the conclusion that the operation is indicated in younger females. In the 25 males who have been subjected to this procedure, our statistical consultants feel that a dogmatic conclusion of contraindication is not justified. They did not recommend, however, that additional males be operated on in order to increase the size of the group.

The seriousness of this disease is shown by the relatively high mortality rate. It is worth emphasizing that the females subjected to thymectomy have a decreased mortality rate (15%) as compared to their controls (28%). This includes the operative mortality, which was 7.5%. The operative mortality for males was 24%. An examination of the operative mortality rate for both sexes reveals that, prior to 1946, 5 of 17 patients died (29%). From 1946 through 1952, 5 out of 61 patients died (8%). Our data suggest that the young female patient has twice the chance of survival with thymectomy, and this better chance of survival is greatly increased owing to the experience of the surgical team, anesthesia personnel, and neurological indoctrination of the house staff.

SUMMARY AND CONCLUSIONS

The progress of 78 patients who have undergone thymectomy is analyzed and compared to a similar group who have not had surgery. The patients of all ages and both sexes who had thymomas demonstrable by either gross or microscopic examination derived no evident improvement in their myasthenia from the operation. Males received no evident benefit from the operation. Thymectomy appears to be contraindicated in males in whom the onset of the disease was after 30.

In females without thymomas, thymectomy appears definitely indicated. The incidence of unquestionable improvement in all 53 females who were subjected to thymectomy was 63% as opposed to 34% in the controls. The mortality rate, including operative deaths, was 15% for female thymectomy patients and 28% for their controls. More data indicate that the disease is twice as common in young females as in young males and twice as common in older males as in females.

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[6] Rowland, L. P.: Fatalities in Myasthenia Gravis, Tr. Am. Neurol. A., 1953, to be published.

SPECIAL ARTICLE

A HISTORICAL REVIEW OF MYASTHENIA GRAVIS FROM 1672 TO 1900

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Although myasthenia gravis was not described with any pretense of completeness as a clinical entity until the last quarter of the 19th century, a reference by Thomas Willis, an astute 17th century English clinician, indicates that Willis knew of the disease and recognized the chief symptom of asthenia of the voluntary muscles, with recovery after rest. The description of the weakness in his patient (1672),[1] first noticed by Guthrie (1903),[2] occurs in his book on the physiology and pathology of disease, with illustrative cases, "De anima brutorum," published in two separate editions the same year in Oxford and in London.

An English translation of "De anima brutorum" was made by S. Pordage in 1683 and published as "Two Discourses Concerning the Soul of Brutes" in "Dr. Willis's Practice of Physick" (London, 1684).[3] The significant part is as follows:

> There follows another kind of this Disease [i. e. the *Palsie*] depending upon the want and fewness of Spirits, in which, although motion be not deficient in any part or member wholly, yet it is not performed by any but weakly and depravedly only. For though the distemper'd are free from want of motion, they are not able however to move their members strongly, or to bear any weight; moreover, in every motive endeavour, they labour with a trembling of their limbs, which is only a defect of debility, and of a broken strength in the motive power. For when strength is wanting for the lifting up of any member firmly, and at one essay or endeavour, Nature flagging, acts with a more often repeated tryal or endeavour, and so the part being in motion is compelled as it were to shake and tremble . . . (p. 166).
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> Not only *Scorbutical* persons, but also many others, hardly and long growing well from some *Chronical* Disease, are distemper'd with Members very much loosened from their due vigor and strength, and with a languishing of their Limbs; that though they are well in their stomach, and have a good and laudable Pulse and Urine, yet they are as if they were enervated, and cannot stand upright, and dare scarce enter upon local motions, or if they do, cannot perform them long: yea, some without any notable sickness, are for a long time fixed in their Bed, as if they were every day about to dye; whilst they lye undisturbed, talk with their Friends, and are

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[1] Willis, T.: De anima brutorum, Oxford, Theatro Sheldoniano, 1672, pp. 404-406.

[2] Guthrie, L. G.: Myasthenia Gravis in the Seventeenth Century, Lancet 1:330, 1903.

[3] Willis, T.: Two Discourses Concerning the Soul of Brutes, translated by S. Pordage, London, 1683.

> cheerful, but they will not, nor dare not move or walk; yea they shun all motion, as a most horrid thing. Without doubt in these, although the Animal Spirits do after a manner actuate and irradiate the whole nervous Stock, yet their numbers are so small, and in so few heaps, that when as many spirits ought to be heaped together somewhere in it for motion, there is great danger left presently in the neighbouring parts, their continuity should be broken. Wherefore, when the spirits inhabiting the Brain, are conscious of the debility of others disposed in the Members, they themselves refuse local motions, for that it would be too difficult a task to impose on their companions; wherefore, the sick are scarce brought by any persuasion, to try whether they can go or not; Nevertheless, those labouring with a want of Spirits, who will exercise local motions, as well as they can, in the morning are able to walk firmly, to fling about their Arms hither and thither, or to take up any heavy thing; before noon the stock of the Spirits being spent, which had flowed into the Muscles, they are scarce able to move Hand or Foot. At this time I have under my charge a prudent and an honest Woman, who for many years hath been obnoxious to this sort of spurious *Palsie,* not only in her Members, but also in her tongue; she for some time can speak freely and readily enough, but after she has spoke long, or hastily, or eagerly, she is not able to speak a word, but becomes as mute as a Fish, nor can she recover the use of her voice under an hour or two (p. 167).

Thus Willis noted that his patients developed general, although partial, paralysis, that they were "not able however to move their members strongly, or to bear any weight," and that they "dare scarce enter upon local motions, or if they do, cannot perform them long." Some kept to their beds, neither wishing nor daring to be raised up or to walk about. In spite of the paralysis, his patients discoursed with their friends and were cheerful. Willis was particularly impressed by the strength shown by his patients in the morning. They were able to walk, move their arms, and lift a weight with strength; "before noon," however, "the stock of the Spirits being spent, which had flowed into the Muscles, they are scarce able to move Hand or Foot." The dysarthria of one patient, "a prudent and an honest Woman," was described in some detail by Willis. The disease had lasted for "many years" and was evident in the palsy not only of her limbs but also of her tongue. For some time she spoke "freely and readily enough," but after long, hasty, or laborious speaking she became "as mute as a Fish," only recovering her voice after an hour or two. There can be little doubt, therefore, that Willis, in the latter quarter of the 17th century, recognized the disease and described its principal symptoms.

Nearly 200 years were to pass, however, before myasthenia gravis was again referred to in the medical writings. The next recorded observation also was made by an English physician. Samuel Wilks (1877),[4] one of the physicians to Guy's Hospital, London, who, in describing some cases of bulbar paralysis and other neurological syndromes, described one patient with symptoms slightly suggestive of those seen in cases of myasthenia gravis. A girl could scarcely walk and had slight strabismus. No further change occurred in the first month; action and speech were slow and deliberate. At the end of this period she developed rapidly the additional symptoms of dysarthria and dysphagia. Unable to cough, she died of acute respiratory paralysis. The clinical record, as published, is so incomplete as to make the diagnosis difficult. Missing is the essential feature of myasthenia gravis, already noted by Willis, namely, recovery of muscular power after rest.

The report by Wilks, however, is important because the medulla oblongata was examined post mortem and no pathological signs of disease were found. "It appeared," wrote Wilks, "quite healthy to the naked eye, and the microscope discovered no manifest change in the tissue." This finding was strikingly different from the observations in cases of bulbar palsy, where cell degeneration was recognized by Wilks and his associates at Guy's as early as 1877.

Wilks' vague notation of 1877 passed almost unnoticed, as had the better account of Willis' patient, 200 years before. A more important presentation is that by Erb (1879),[5] who may be regarded as the first physician to write a reasonably full account of the syndrome. His paper was read May 18, 1878, although it was not printed until the next year. Two of his three patients were seen in Friedreich's clinic in Heidelberg, where Erb wa serving at the time as a physician.

Wilhelm Heinrich Erb, aged 38 in 1878, and long interested in muscular disorders, had first used the galvani and faradic currents for electrodiagnosis in 1868 and ha described the form of brachial palsy that goes by hi name in 1877. In 1878, his *Handbuch* in two volume was in the course of publication.

Erb's first patient with myasthenia gravis, a man c 55, was seen in 1868, 11 years prior to the publicatio of his case record. The patient's illness had develope over a period of *four months, the principal symptom* being bilateral ptosis, neck weakness, and dysphagia Some atrophy was noted in the neck muscles, and th response to faradism in the trapezii, masseters, an splenii was diminished. In six months, with galvanism decided improvement was noted. The patient, Georg Fuss, a day laborer, is worthy of notice, as he must have been one of the first patients examined and treated by electricity under Erb's care. When a remission occurred, it was natural for Erb *to attribute the improvement* to the galvanism. The patient was not followed beyond 1868.

A second patient from Friedreich's clinic was Magdalene Meisel, a peasant of 30 years of age, who was first seen on Oct. 17, 1870. Her early symptoms were diplopia and ptosis, dysphagia, and general weakness. During the next year there were frequent fluctuations in the severity of her disease. At one time she was nearly normal; later her speech became nasal, with marked general fatigue. After a period of recovery she died suddenly at night, in March, 1872. There was no postmortem examination. This is the first case in which there is a record of remissions and relapses. There is no mention of recovery after rest. Death occurred suddenly, as in Wilks' case.

Erb's third patient, August Thal, a merchant, aged 47, was first seen on July 11, 1871. For a year the patient had noticed weakness of his neck muscles. Later there was general weakness and he could not hold his head up. Bilateral ptosis was next observed, then weakness of the *facial muscles. No improvement was noted* after galvanism; the patient was followed only a month or two.

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[4] Wilks, S.: On Cerebritis, Hysteria, and Bulbar Paralysis, as Illustrative of Arrest of Function of the Cerebrospinal Centres, Guy's Hosp. Rep. **22**:7-55, 1877.

[5] Erb, W.: Zur Casuistik der bulbären Lähmungen. (3) Ueber einen neuen, wahrscheinlich bulbären Symptomencomplex, Arch. Psychiat. **9**: 336-350, 1879.

All three cases described by Erb appear, 74 years later, to be examples of myasthenia gravis. The case of Magdalene Meisel is the most characteristic, and the progress of her disease to death is a story often repeated in the literature in subsequent years. The other reports, while not so definite and lacking the length of observation needed to make an accurate diagnosis, nevertheless describe cases clearly enough that they may be classified as cases of types of myasthenia gravis.

Erb's paper is, therefore, incomplete. It is of value, however, for Erb first brought out clearly some of the chief symptoms of myasthenia gravis, particularly the distribution of the paralysis in the muscles supplied by the bulbar nuclei, the progress by remission and relapse, the sudden death, and the frequency of ptosis as the leading sign of the disease. He mentions other symptoms, however, not commonly found, such as hyperacusis in the first and second case, and headache, vertigo, and sharp pains in some of the others. In spite of the inadequacy of his descriptions, from the present point of view, it must be realized that these three patients were taken from a large number of patients with bulbar paralysis, certainly an ill-defined group in 1879, and considered to have a new symptom complex. The syndrome was not, however, given a definite name. With only brief histories and periods of observation and without postmortem studies, Erb saw something unusual about these three patients and had the genius to visualize a previously undescribed, as far as he was concerned, disease. Erb might rightly be considered the first physician to bring myasthenia gravis to the attention of the medical world. He published his paper, moreover, in a standard medical journal, which was, although only nine years old, devoted exclusively to psychiatry and neurology, where it was most likely to be seen and evaluated by others competent to judge its worth.

The first to do so was Eisenlohr (1887),[6] a physician from Hamburg, who added another case report eight years later. The patient, a girl, aged 18, was seen in the summer of 1886. His account is chiefly notable for his observation of variations in the patient's symptoms in the course of a single day, a point not previously mentioned by others. Chief emphasis was placed by Eisenlohr on the external ophthalmoplegia, which was accompanied by attacks of migraine, dating back to early childhood. The terminal manifestations of diaphragmatic paralysis, with no abnormalities found on postmortem examination, however, lead me to believe that a diagnosis of myasthenia gravis was justified. Death, in females at about this age, is one of the most characteristic features of the disease, as will be illustrated frequently in later reports.

Oppenheim (1887), an assistant in Westphal's clinic at the Charité in Berlin, reported still another case. While Oppenheim was the first to notice Wilks' case of 10 years before and quotes it in full, he does not mention for some reason the three cases described by Erb in 1879. Oppenheim was particularly interested in the differential diagnosis between hysteria and myasthenia gravis and noted that Wilks' house physician was inclined at first toward a diagnosis of hysteria in the London case. His patient, Pauline Jahnke, a 29-year-old maidservant, was observed for over a year. There was marked variation in the severity of her symptoms; she died in a dyspneic attack. The postmortem examination revealed no abnormalities.

The case reported by Shaw (1890),[7] although a careful study of the pons and medulla post mortem failed to show any signs of structural disease, is important historically because of the observation, first made by Willis, that the patient's "symptoms were but slight in the morning, but became more evident as the day advanced." This fact had long been unnoticed until revived by Shaw. The patient, a 37-year-old baker, had symptoms for only six months before death. He showed the usual dysarthria, dysphagia, diplopia, and difficulty in mastication and expectoration. Shaw notes particularly the "copious secretion of frothy mucus" and gives a vivid account of the terminal respiratory paralysis and failure of artificial respiration, reported for the first time in the treatment of myasthenia gravis.

The striking changes in the eye muscles were naturally one of the first symptoms to attract attention. Bernhardt (1890) made particular note of this. His patient, a joiner, aged 44, first noticed diplopia in August, 1866. By November there was double ptosis and difficulty in mastication. In February, 1877, he was well, and his remission lasted until 1890, the longest recorded up to that time. Six months later, however, neck weakness, dysarthria, and general weakness developed, with dyspnea, only to be followed by a brief period of improvement. The patient died suddenly before the year was out; there was no autopsy. The reporting of a 3 year remission, coming on 10 years after the onset of the disease, was the chief addition by Bernhardt to our knowledge.

An American student, Hermann Hoppe (1892),[8] working in Oppenheim's clinic and laboratory in Berlin, reported a fully studied case in 1892, with no abnormal findings at postmortem examination. Hoppe's patient, a blacksmith, aged 40, was observed for over a year with symptoms of bilateral ptosis, dysarthria, and dysphagia. There was weakness of both facial muscles, as well as those of mastication, the abductors and adductors of the vocal cords, and the extremities. Electrical reactions were normal, and there was no atrophy. The postmortem examination of the nervous system was more complete than in any previously described case; no lesions were found. Hoppe compared his case in detail with those of Wilks, Oppenheim, and Eisenlohr. His report contains the most comprehensive review of the disease up to 1892.

In a report on three cases of bulbar paralysis by Remak (1892), the second case is highly suggestive of myasthenia gravis, in spite of the fact that the girl was only 12 years of age. She suffered from influenza in February, 1890, and noticed facial weakness and dysarthria the following July. By September, she had dysphagia, nasal speech, and weakness of the tongue and lips. Some improvement followed, but she had difficulty in expectoration and attacks of dyspnea. Weakness of the arm was next noted. Death occurred from respiratory

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6. Eisenlohr, C.: Ein Fall von Ophthalmoplegia externa progressiva und finaler Bulbärparalyse mit negativem Sectionsbefund, Neurol. Centralbl. **6**: 337-341, 361-365, 389-390, 1887.

7. Shaw, L. E.: A Case of Bulbar Paralysis Without Structural Changes in the Medulla, Brain **13**:96-99, 1890.

8. Hoppe, H. H.: Ein Beitrag zur Kenntniss der Bulbärparalyse, Berl. klin. Wchnschr. **29**: 332-336, 1892.

paralysis in November. There was no postmortem examination. The chief interest in the case historically lies in the age of the patient, one of the youngest on record.

Dreschfeld (1893), of Manchester, England, described another case in great detail under the title of "Polioencephalomyelitis Without Any Anatomical Lesions." His report is the first emphasizing the long history of symptoms, characteristic of myasthenia gravis. Double ptosis at the age of 21 was followed, after six months, by a remission lasting five years. Five years later the patient suffered a second attack, which continued intermittently for 10 years. She died at the age of 36 of respiratory paralysis. An extensive postmortem examination failed to disclose any lesions in the nervous system. For 10 years, between the second and third attack, she was able to work as a dressmaker and in the bakehouse of an almshouse. She ate slowly, with frequent rest periods, supporting her jaw with her hand. There was also weakness of her shoulders. During the long period only the eye symptoms improved. In spite of the title of his report, Dreschfeld compares his case with those reported by Hoppe, Wilks, Eisenlohr, and others.

With a score or more cases reported by 1893, some with negative examinations of the pons and medulla, Goldflam (1893),[9] added greatly to our knowledge of the disease and his name is rightfully coupled with that of Erb in the eponym the Erb-Goldflam symptom complex. He not only added three important case reports to the literature but also analyzed the symptoms in a manner superior to any writer before him. He noted the early bulbar symptoms, which often come on in a few weeks or months after the onset, the facial weakness, and the involvement of the trunk and neck muscles. The rapid exhaustion of all muscles was particularly emphasized. He was not unmindful of remissions and exacerbations, particularly those occurring in a period of 24 hours or less. All three of his patients were worse in the evening. To differentiate his cases from bulbar paralysis as described by Duchenne, Goldflam pointed out the lack of atrophy of the muscles affected, the absence of fibrillation, the normal electrical responses, the presence of sphincter control, the normal or lively reflexes with reflex exhaustion after continuous stimulation, and the normal palatal reflex. Some of these points had been noted before, but Goldflam synthesized the whole picture and made clear the differential diagnosis between myasthenia gravis and bulbar palsy. Goldflam, moreover, stressed the attacks of dyspnea and, although none of his patients died under his observation, he nearly had a fatality as the result of the examination of the larynx of one of them. Finally, he noted the weakness of the muscles supplied by the fifth cranial nerve in myasthenia gravis, a muscle group rarely, if ever, paralysed in bulbar palsy. Entirely familiar with the previous literature, Goldflam realized that his three cases were examples of a benign type of the disease.

Goldflam, in his summary, established the following points: The disease often occurs in early life. The sexes are about equally affected. Myasthenia gravis is primarily a disease of the motor system, with only occasional pains or paresthesias; chewing, swallowing and eye movements are most affected at first, followed by involvement of the trunk and extremities. The disease rarely has its onset in the arms or legs. The muscular involvement is usually symmetrical. The muscles supplied by the facial nerve are always involved, mostly the middle and lower branches; the muscles of mastication and those of the neck are next commonly affected. Stimulation results in rapid weakness. Most patients are worse in the afternoon. Twenty or 30 movements often bring the muscle response to zero. Daily remissions and relapses occur, but remissions may last as long as four years. The knee jerk may be exhausted by stimulation. Death may occur very suddenly. All of Goldflam's observations are valid today; in fact, little has been added to the clinical description of the disease since his time. His paper in many ways is the most important ever written in the history of the disease.

After Goldflam's paper, other cases were soon reported. Suckling (1893) observed two nonfatal cases in young women; Wernicke (1893) described the now somewhat recognized syndrome in a young woman who died suddenly of asphyxia. Examination of the nervous system post mortem revealed no abnormalities except some vascular dilatation and recent hemorrhages. A similar case, with death from sudden choking, was reported by Mayer (1894). Wernicke's observation on th thymus was not to be made until 10 years later.

Jolly (1895),[10] who first gave the name myastheni gravis pseudoparalytica to the disease, published report of two cases. A preliminary report of the first case wa given in 1891, but both cases were described in detai in 1895. The first patient was a boy of 15, with many symptoms of eight months' duration. When his muscles were stimulated repeatedly with faradism, a reaction o asthenia was promptly demonstrated. This, the "myasthenic reaction," was recorded in tracings. The patient died suddenly while eating, with a piece of food sticking in his throat. No abnormal changes were found in either the nervous system or in the muscles.

Jolly's second patient was also a boy, aged 14, who had had symptoms for over a year, beginning with ptosis. Subsequently, there was great weakness in his arms, legs, neck, and muscles of mastication. The speech became so indistinct that Jolly was reminded of general paralysis. All voluntary muscles were readily exhausted and Jolly noticed that exhaustion of one group of muscles was seen to produce asthenia in others. The child was always better after rest, particularly in the morning. While eating he had to stop frequently because of weakness in chewing; speech became indistinct if he read aloud, but he did not become "mute as a fish"; dysphagia was not present.

Jolly thus was the first to analyse the reaction of muscles in myasthenia gravis to electrical stimulation and to name the disease. He also suggested physostigmine as a form of treatment, but he does not seem to have followed out this important point and it was left to Walker 40 years later to demonstrate the therapeutic value of this drug.

Pineles (1895) added reports of four more cases, one with rapid onset in a man of 25. Two of his patients died suddenly of dyspnea, justifying, as had many others, the correctness of the term "gravis" in the designation of the disease given it by Jolly. Pineles seems to have been the first to refer to myasthenia gravis as the "Erb-Goldflam bulbar symptom complex."

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[9] Goldflam, S.: Ueber einen scheinbar heilbaren bulbärparalytischen Symptomencomplex mit Betheiligung der Extremitäten, Deutsche Ztschr. Nervenh. 4: 312-352, 1893.

[10] Jolly, F.: Ueber Myasthenia Gravis Pseudoparalytica, Berl. klin. Wchnschr. 32: 1-7, 1895.

Up to 1895, all the reports of cases had come from England, Germany or Austria, the majority stimulated by the pioneer work of Erb, Goldflam, and Jolly. Soon case reports began to come in from France, from Italy, and from America. The first from France came from Charcot's old clinic in Paris, where Marinesco found some recent hemorrhage beside the aqueduct of Sylvius and in the vagal nuclei post mortem in a case formerly observed by Charcot and Brissaud. The brief report was issued two years after Charcot's death under the name of both authors, Charcot and Marinesco (1895). No mention was made of any previous descriptions; the disease was not named.

Murri (1896) [11] reported the first case of Italy under the name of Erb's disease. He used the electrical reactions described a year before by Jolly, and pointed out, in addition to Jolly's observations, that, even when complete *exhaustion* was produced by an electrical current, the muscles could readily contract voluntarily. He also showed the reverse, namely, that muscles exhausted voluntarily would still react to the electrical current. His paper was illustrated by a series of myograms, exquisitely reproduced and far superior to those found in Jolly's paper in 1895. He was much influenced by Mosso, the Italian physiologist, who had long been interested in myograms. Murri also noted the daily variation in his patient's symptoms.

Another case was added to the literature by Strümpell (1896), who observed a girl, 21 years of age, from Dec. 30, 1893, until her death on March 27, 1894. Particular attention was called to the rapid exhaustion of the muscles and to the fact that the patient was worse during her menstrual period, the first indication in the literature that the disease might be affected by glandular activity. For the last three months of her life, the patient had almost daily attacks of dyspnea, with marked salivation. Death occurred from respiratory paralysis. Postmortem examination, particularly of the medullary nuclei, revealed no abnormalities.

Silbermark (1896) described a cook seen in Nothnagel's Klinik. The patient had noticed, while rolling dough, that the third and fourth fingers were weak and could not be normally extended. Later bulbar symptoms developed, with variations in intensity and duration. He always felt better in dry, warm weather. There were notable remissions.

The symptoms in the patient seen by Devic and Roux (1896) were chiefly neck weakness and ptosis, without other bulbar involvement. They report an excellent remission, followed by a mild relapse. At the same time, Fajersztajn (1896) was observing a man of 23 in Lemberg, who was so sick that he could not sit up in bed and even lifting a spoon to his mouth soon tired him. After six months in bed, improvement followed, but there were transient relapses.

The first paper from America, although not the first report of an American—for Hoppe had already written his paper at Oppenheim's Berlin clinic—is that of Collins (1897),[12] given as a clinical lecture in 1896. Collins reviewed the literature and presented a patient, aged 27, whose first symptom developed during pregnancy.

Kalischer (1897) also reported a case in a man of 50 in whom ptosis developed after an attack of influenza. Dysphagia, dysarthria, and general weakness were later noted, with a positive Jolly test. Kalischer thought there was an affection of the motor nuclei and used the term poliencephalomyelitis. He stressed the possibility of sudden respiratory paralysis after a remission.

Two cases were excellently described by Kojewnikoff (1897) of Moscow. The first, a man of 54, had marked weakness in chewing and swallowing, and tube feeding was resorted to. The patient died suddenly of respiratory paralysis. His second case is of more importance because of the use of the ergograph to test muscular weakness. A girl of 17 first noticed symptoms of a bulbar type at the onset of menstruation. The disease progressed by remission and relapse. During a relapse on one occasion she became dyspneic during sleep in an attack that lasted three hours, followed by recovery. The patient was tested for muscular weakness by the Jolly method and also by the use of the Mosso ergograph. Pulling a weight of 400 gm. with the third finger, once a second, caused rapid myasthenia.

Karplus (1897) separated from the general group of asthenic paralyses those with ophthalmoplegia as the first and most persistent symptom and called them asthenic ophthalmoplegia. In his patient, aged 24, other symptoms did not develop until after nearly 20 episodes of intermittent ptosis and diplopia, when she had general weakness and difficulty in chewing.

The first case in which a postmortem examination was done in America was that reported by Berkley (1897) [13] from Johns Hopkins Hospital. The patient had symptoms for seven years, dying suddenly. No changes were found in any of the motor cells. The case, while atypical, had many of the classical features of myasthenia gravis.

Widal and Marinesco (1897) observed a patient, aged 31, with acute bulbar paralysis. The onset was rapid, and, although there were some variations in the symptoms in the two weeks that the patient lived, the ptosis, diplopia, dysarthria, dysphagia, and general weakness never cleared up entirely. The symptoms were all worse in the afternoon and evening. Chromatolysis of the motor cranial nuclei and of some of the anterior horn cells was found on postmortem examination. The rapid onset, with death in two weeks, plus the changes found at autopsy, make the diagnosis uncertain. Similar cell changes are seen oftener in cases of acute ascending paralysis (Landry's syndrome).

Cohn's patient (1897),[14] a girl of 16, who died after a few months of illness, had a rapid, nonremitting type of myasthenia gravis. At autopsy hemorrhages into the brain stem of a petechial type were demonstrated. It was Toby Cohn who fixed the name of myasthenia gravis given to the syndrome by Jolly.

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[11] Murri, A.: Sur un cas de maladie d'Erb, Arch. ital. biol. 25: 64-92, 1896.

[12] Collins, J.: Asthenic Bulbar Paralysis, Int. Med. Mag. 5: 203-212, 1897.

[13] Berkley, H. J.: Asthenic Bulbar Paralysis (Strümpell), Johns Hopkins Hosp. Rep. 6: 94-108, 1897.

[14] Cohn, T.: Ueber Myasthenia pseudoparalytica, Deutsche med. Wchnschr. 23: 785-789, 1897.

Schlesinger (1897) reviewed all types of bulbar paralysis seen at the University clinic in Vienna and found only one case of a doubtful nature. Brissaud and Lantzenberg (1897) gave a full review of the literature on myasthenia gravis and reported one questionable case. Eulenburg (1898) observed a patient for three years with intermittent ophthalmoplegia, and Wheaton (1898) reported a fatal case, without autopsy, from America.

Of more importance was the case reported by Mailhouse (1898),[15] for his patient was a boy, aged 2 years and 9 months, the youngest patient observed and reported on up to that time. The child, who had been healthy previously, died suddenly after a month's illness. There was no autopsy, but the clinical description of myasthenia was unmistakable. In Karplus's case symptoms had supposedly begun at the age of 5, but Mailhouse actually observed the disease before the age of 3. The brief duration before death was also a feature of Wheaton's case.

The subject was again reviewed, this time in Frankfurt, by Laquer (1898), with abstracts of previous cases and with the addition of a case of his own. He noted that the symptoms in his patient became intensified after an attack of bronchitis; the man, aged 49, tended to fall asleep after the midday meal and, as the disease progressed, considerable atrophy developed in the arm and leg muscles. Some muscles were also tender to pressure. The myasthenic reaction was present. As the patient had long suffered from gout, the atrophy and tenderness may have been due to neuritis or myositis and not the result of the myasthenia.

Saenger (1898) noted an improvement in his patient when she became pregnant, but details are lacking in his brief report. Montesano (1898) suggested an infectious element as the causative factor, and Kostezkaso (1898) noted weekly variations in the progress of the disease.

Campbell (1899) demonstrated a case before the Clinical Society of London, Feb. 24, 1899, and Seiffer (1899) another before the Berlin Society of Psychiatry and Neurology on Nov. 13 in the same year. At the latter meeting, the syndrome was discussed by Oppenheim, Bernhardt, Jolly, Kalischer, Remak, Mendel, and Toby Cohn. The name myasthenia pseudoparalytica (Jolly) was generally accepted, as had been suggested by Cohn two years before.

In America, two cases were reported at the 25th annual meeting of the American Neurological Association in 1899. Sinkler (1899)[16] was the first to show the facial appearance of a patient, a woman of 37, by photographs. Ptosis had existed for seven years, but dysphagia and general weakness occurred only after the birth of her sixth child, five months before she was seen by Sinkler. He did not give a clear picture of the patient's condition during the last pregnancy, but the chief symptoms appeared soon after it. Punton (1899), reporting at the same meeting, had observed a woman of 25 with typical symptoms. He was impressed by the "putty-like blankness" of her facial expression.

In discussion, Collins pointed out that his patient reported on in 1897, was always worse at the menstrua period. His patient also had an acute psychosis of the confusional type.

The year 1900 witnessed a great outpouring of literature on the subject. Cases were reported from many places in Europe and from America. The disease had become widely recognized. In Germany, Feinberg (1900 observed a man of 44, with an unusual onset of intestinal obstruction, occipital pain, and parasthesias. The later symptoms were more typical, and recovery took place in about six weeks. The patient remained well for the next year. Feinberg stressed the onset with "autointoxication." Giese and Schultze (1900) contributed a careful study to Erb's *Festschrift* of a married woman of 24 who had a tendency toward remission and relapse of single symptoms, but never of all symptoms at the same time. She was worse with the onset of menstruation. After a partial recovery, she suffered a psychic shock in the death of her child and immediately had severe dyspnea and other bulbar signs, with rapid relapse and death in two days. On examination, the brain was found to be normal. The authors felt that the disease should be named after Erb. Oppenheim (1900) described a case that was formerly considered as an example of hyperthyroidism or hysteria but later was recognized as a case of myasthenia gravis. The postmortem examination failed to show any changes in the brain cells. After reviewing 19 cases in the literature, all without cerebral lesions, Oppenheim felt that the disease was probably without anatomical basis but that congenital malformation of the brain might play a part in the etiology of myasthenia gravis. In his case he found some minor congenital abnormalities. Cohn (1900) added another case.

In Belgium, two cases were described by DeBuck (1900) and by DeBuck and Broeckaert (1900). In the first case, DeBuck found some atrophy, similar to that found by Laquer, and this caused him to be disturbed about the diagnosis. The other symptoms were characteristic and a diagnosis of myasthenia was finally accepted. The second case, reported by DeBuck and Broeckaert, was more typical of those described by Erb. The Jolly myasthenic reaction was absent, but the authors felt that this was not a constant sign, as had Oppenheim. They found 90 cases in the literature and considered their case the 91st.

In addition to the fine summary by DeBuck, an even more complete review was given by Guastoni and Lombi (1900) of Rome. They observed a patient over a period of nearly three years. He had a scaly, painful dermatitis in addition to many bulbar symptoms. The Jolly reaction was positive. After a number of months, recovery was complete. The authors gave a full discussion of Erb's disease, with a listing of cases previously reported.

In England, single cases were reported by Hall (1900), Guthrie (1900), and Batten and Fletcher (1900). Hall's patient was a woman who was much worse during her menstrual period and in the course of her illness had extreme mental depression. After a partial remission, she died suddenly after eating. The brain sections appeared normal. Guthrie's patient, a woman, aged 23, showed considerable variability in her symptomatology; she could eat breakfast well, but other meals were taken with difficulty. As in the original case of Willis, after she read a few lines aloud, her speech became unintelligible. The case was similar to Campbell's that was presented before the same society in 1899. Batten and Fletcher also observed the disease in a woman, aged 22, who lived only a few months. Death came after eating, in spite of artificial respiration and tracheotomy; the brain sections showed only slight abnormal signs in the cranial nerve nuclei.

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[15] Mailhouse, M.: A Case of Myasthenia Pseudoparalytica Gravis (Jolly) or Asthenic Bulbar Paralysis (Strümpell), Boston M. & S. J. **138**: 439-441, 1898.

[16] Sinkler, W.: Asthenic Bulbar Paralysis, J. Nerv. & Ment. Dis. **26**: 536-544, 1899.

Buzzard (1900) reported on one case in a man, aged 40, who had symptoms for seven years. With rest, his symptoms almost entirely disappeared. His second case, in a woman, aged 24, was also not severe. The Jolly myasthenic reaction was present in each patient.

Campbell and Bramwell (1900) [17] reviewed the entire literature up to 1900, abstracted each case, and compiled a table giving the major symptoms and signs. Although they made a good many minor errors in tabulation, the paper was important, for it served to fix the main concept of the disease in the minds of the men in the British and American medical profession.

During 1900, two more cases were reported from America, one by Brown (1900) and another by Paul (1900).[18] Brown's patient, a woman, aged 29, was ill about 16 months; she lost 15 lb. (7.3 kg.) in weight and was greatly reduced in strength. She experienced a good spontaneous remission. Inability to do her hair was one of her chief symptoms. In the discussion of Brown's paper, four more cases were noted briefly by the physicians. Paul's patient, a 23-year-old woman who had been married for three years, had many typical features of the disease. This was the first case reported from the Massachusetts General Hospital. Following is an account of the symptoms based on the original clinical history:

Eight months before presenting herself at the hospital and 18 months after her confinement, while taking the part of a Japanese girl in private theatricals, she stooped low, in a line with a number of other performers; at a given cue all the line were to resume the standing attitude, but the patient could not rise and asked for help. She was ridiculed a bit and then assisted to stand. In the final performance she received assistance from her comrades on either side and suffered no further disability. Ascending stairs became difficult; in boarding a car she could not lift her feet without assistance. If merely helped in the usual way by taking of her hand or arm, she would be pulled forward and fall on her face. This loss of muscular power was of brief duration. Crossing the knees at times required assistance. She could usually walk on a level, but stepping up was frequently difficult. In spite of her myasthenic symptoms, she attended to her housekeeping and cared for her baby.

Transient weakness in the arms next appeared; at times they would drop like lead without sensory disturbance; her husband had to support them when she arranged her hair; to insert a hat pin she rested the elbows on the mantel. In playing the piano both hands tired easily. She would sometimes have to drag the baby to her lap rather than lift him clear. Once when she was attempting to take him from his crib it was impossible to straighten up until assisted. She refrained from handling objects. There was difficulty at times in buttoning, and ability to do millinery and embroidery was lessened. The attacks of weakness became more frequent. These symptoms were of short duration and came on usually after severe use of those muscles in which weakness or complete loss of power developed. She not infrequently fell backwards on stairs, and on one occasion when near the top her legs gave way and she fell with the baby in her arms, sliding down several steps without injury. Transient diplopia occurred in the course of the disease, and it was noticed at times that when she looked up the head was thrown back, indicating ptosis. The muscles of mastication escaped. There was lack of expression in the face, and the laugh seemed incomplete. The voice at times was nasal and somewhat indistinct, though not lowered. Words were correctly chosen, and speech was never really lost. One day the words ran together and the lips seemed powerless, but holding of the upper lip with the fingers obviated her difficulty. Swallowing was sometimes awkward, and in the later stages this difficulty became serious. The neck muscles sometimes suddenly gave way so that the head required support.

The symptoms became more frequent, and involved on several occasions very nearly all of the voluntary muscular system. One evening six months before death, after climbing the stairs safely, she fell to the floor unable to move or speak, but finally succeeded in attracting attention by tapping the floor with her heel. Later, in attempting one day to step up on the piazza, she fell in a heap and had to be carried bodily into the house. In a third instance, five weeks before death, she fell helpless at the top of the stairs. After a few moments she regained control of her muscles in each instance; some drowsiness followed the last attack, but no unconsciousness.

The most serious symptom to develop was choking, the first attack occurring about six months before death. At the commencement of a meal, the first attempt to swallow water caused strangulation; she became cyanosed and unconscious, but revived at the end of about 30 minutes. A month later, after she took two swallows of water without trouble, the third choked her. Cyanosis and unconsciousness followed, and Dr. Campbell, who was present, seriously considered tracheotomy. Such attacks and the accompanying apprehension impaired nutrition materially, but there was no local atrophy. Her mind remained clear. Palpitation and dyspnea occurred, but were not prominent symptoms.

There was no numbness or prickling. Appetite and digestion were good. The disposition was unaltered; the catamenia reappeared after confinement and did not modify the symptoms. The sphincters were unaffected; there was no spasmodic movement, stiffness, or tenderness. Emotional excitement aggravated the disturbance.

During the last few months of life the attacks of weakness became more frequent and profound, yet, when seen in the intervals, she gave no impression of serious illness. The bulbar symptoms became more pronounced and at one time rectal feeding was practiced; but the ability to swallow food and liquids returned while she was at the Boston City Hospital, some months before death. Toward the end she was sometimes unable to roll over or to sit up in bed, showing involvement of trunk muscles.

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[17] Campbell, H., and Bramwell, E.: Myasthenia Gravis, Brain 23: 277-336, 1900.

[18] Paul, W. E.: Case of Myasthenia Gravis Pseudoparalytica, Boston M. & S. J. 143: 632-634, 1900.

The ocular symptoms also increased, but there were remissions with apparent normal muscular balance. Exposure to cold did not aggravate the condition, as a rule; but once, on leaving the car after a journey, she became helpless on encountering the chill of a March air. Three days before death she was able to try on a dress, and two days before death she sat in a chair and swallowed without trouble. At this time she complained of palpitation and of a sharp pain in the right iliac region. The lungs filled up but became clear again after several hours; there was temporary inability to spit out or swallow the secretions. Death occurred 18 months after the first symptoms.

SUMMARY AND CONCLUSIONS

From 1672 to 1900 the concept of a disease, myasthenia gravis, was formed in the minds of a score or more of medical observers. Willis, the first of a distinguished line, grasped the essential clinical signs and delineated their identity in 1672. His description died aborning until uncovered by Guthrie in 1903, although it may have lingered smoldering in the minds of physicians in the 18th and 19th centuries, even to the point of influencing practice by a vague recognition of a specific disease. Nearly 200 years after Willis wrote his discerning note, another English physician, Wilks, in 1877 gave a brief account of a girl with symptoms suggestive of myasthenia. Although the history of his patient's illness is not entirely characteristic, difficulty in swallowing, talking, and breathing developed rapidly, and death occurred suddenly. At postmortem examination no microscopic changes were found in the medulla, strikingly in contrast to what was already common knowledge of the pathology of bulbar paralysis of the degenerative type. Wilks thus contributed the initial description of the failure to find pathological destruction of nerve tissue in the appropriate area of the central nervous system. Wilks' account, as had that of Willis', passed almost unnoticed. Two years later however, Erb in Germany wrote a reasonably full account of the syndrome based on the observation of three patients, one of whom died suddenly. An even more complete single case history was contributed by Eisenlohr in 1887, and subsequently within a few years many other reports were at hand, including an unusually detailed one by Hermann Hoppe, an American student working in Oppenheim's clinic in Berlin in 1892. Goldflam (1893) added greatly to the growing concept of the disease, and his name is rightfully linked with that of Erb in the eponym, the Erb-Goldflam symptom complex. Jolly (1895) was the first to use the name myasthenia gravis and he added the term pseudoparalytica because of the lack of structural changes found post mortem. This name was generally accepted at a meeting of the Berlin Society of Psychiatry and Neurology, held Nov. 13, 1899, a meeting attended by Oppenheim, Jolly, and many others. Two cases were reported at the 25th annual meeting of the American Neurological Association in 1899 by Sinkler, who was the first to demonstrate the facial appearance of a patient by photographs. The year 1900 witnessed a great outpouring of literature on the subject. The disease became widely recognized in the minds of the British and American medical profession, chiefly owing to the paper by Campbell and Bramwell in *Brain*, a standard neurological journal. A typical case, seen at the Massachusetts General Hospital, was described by Paul in 1900.

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COUNCIL ON FOODS AND NUTRITION

COUNCIL ON FOODS AND NUTRITION

This article was written at the request of the Council by the worker who first described kwashiorkor as an entity—Dr. Cicely D. Williams. Its publication in THE JOURNAL *will direct attention to this syndrome, which is known to exist in wide areas of the world—Africa, Latin America, Mexico, Central America, the Caribbean Islands, and elsewhere—and which may occur, but be unrecognized, within the boundaries of the United States and its possessions.*

JAMES R. WILSON, M.D., *Secretary.*

KWASHIORKOR

Cicely D. Williams, D.M. (Ox.), F.R.C.P., D.T.M.&H. (Lond.), Mona, Jamaica, B. W. I.

The study of child health is of comparatively recent growth in the scientifically advanced countries. It is still rudimentary in the countries that are relatively underdeveloped. In most tropical areas, the first duty of the "imported" doctors was to care for the imported population and then to control the major epidemic diseases that might endanger the people as a whole. Preventive medicine was mainly concerned with mass methods. Gradually, more of the indigenous people began to appreciate western medicine and began to accept and then demand treatment.

Tropical diseases are, in fact, mainly due to poor standards or personal hygiene and poor environmental conditions—not to climate. But tropical medicine is overburdened with entomology and laboratory pathology. Even now, courses offered in tropical medicine contain little reference to children. Books on tropical medicine are equally negligent, although it is well known that infancy and childhood are the ages at which adverse environment is most devastating.

When child centers were first started in tropical countries, they were looked upon as amateurish and fanciful. Many persons regarded them as unnecessary frills and not as the basic need of a medical service. Few persons realized that "the survival of the fittest" is a misapplied cliché. It was not recognized that the same conditions that will kill 30% of the babies in the first year of life will also produce a large proportion of persons with damaged lives who will be a burden for years and perish at a later date.

THE DISEASE IN AFRICA

Child welfare clinics were started by the colonial medical service in the Gold Coast, West Africa, during the second decade of this century. The original idea was that they should prevent disease but not cure it. It did not at once occur to anybody that this type of child welfare center was designed to meet only felt needs in a population that already possessed an efficient and acceptable curative service during an era when the value of follow-up was not appreciated. These centers soon became extremely popular, but it was obvious that the demand for treatment of sick children was over-

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Because of lack of space, the bibliographic references have been omitted from THE JOURNAL and will appear in the author's reprints.

whelming. As soon as the Africans discovered that here were physicians who were particularly interested in children, they brought them in swarms. Children's hospitals were built in the two main towns, Accra and Kumasi. The legend was that these hospitals would only take in patients with minor nutritional disease, while patients with serious disease would be sent to the general hospitals. The parents would accept treatment, including admission to a hospital, at the children's centers, where they had learned to know and trust the staff, but many simply would not consider going anywhere else. Fortunately, the mother always insisted on staying in the hospital with the child. "Rooming in" and "demand feeding" were practiced in the Gold Coast long before they were discovered in other countries.

The doctors in charge of these children's centers were faced with many problems. They were officially urged to do prevention rather than treatment. But they realized that disease cannot be prevented unless one knows something about what one is trying to prevent. Their European experience and books were useless, and opportunities for laboratory investigation were minimal. But there was much to be learned simply by observing the children and by talking with the parents and with the African staff. Once they found that the physicians were interested in children, their cooperation was boundless.

It was soon evident that malnutrition was a big problem, though poverty was not. There was little real shortage of money or of food, but there was deep ignorance of how a child should be fed, of how to exploit available resources, and of how to preserve supplies from the season of plenty to the season of shortage.

Few patients presented a simple problem. The doctors had been brought up to avoid a "double diagnosis." Malaria, however, was almost universal, and the incidence and mortality were highest at the ages of 6 months to 4 years. Roundworms were common, and up to 90% of some groups were infested. Yaws, scabies, tropical ulcers, septic skin infections, diarrhea, dysenteries, and respiratory infections were all abundant. Sometimes a patient would be suffering from six or eight of these conditions all at the same time. It was under these circumstances that cases of a spectacular and often fatal form of disorder began to sort themselves out.

In 1927, Dr. R. A. W. Proctor [1] had written in the *Kenya Medical Journal* of a hitherto undescribed condition: "The disease occurs only in quite young children; the child is almost always of an extraordinarily light color and is usually brought up on account of swelling of the feet. The only history obtainable appears to be that in a number of cases there had been slimy motions for some time. As the disease progresses the child becomes paler in color and the pigment appears to be concentrated into a curious black desquamation which is most noticeable on the arms and legs; cracks and sores are often seen at the bends of the elbows and knees, and there may be general edema. The child, as far as my information goes, nearly always dies."

In 1906, Czerny and Keller [2] described a condition among children in Germany due to excessive carbohydrate in the diet, which they called *Mehlnahrschaden.* The disease was obviously close kin to the one we were seeing in the Gold Coast. This was recognized by Waterlow [3] after extensive research some years later. In 1932, a similar condition in West Africa was described by Dr. M. Lieurade [4] under the title "Les enfants rouges du Cameroun." Unfortunately, none of these publications had made their way to the Gold Coast, and we were unaware that the condition existed in other parts of the world.

The disease was first noted in the south, or "colony," part of the Gold Coast. Since the supplementary food for children in that area was nearly always some form of white maize and since some of the features of the disease were comparable to pellagra, it was thought that the maize might have a causative relation. The first article on the subject was published under the title "A Nutritional Disease of Childhood Associated with a Maize Diet." [5] Later, it was found that the condition was also prevalent in Ashanti, where maize was not the only supplementary food; therefore, in a short summary for *Lancet,*[6] it was called kwashiorkor. This cumbersome word was merely a confession of ignorance. It was the name given to the disease by the Accra people, to whom it was well known. Some say the word means "red Kwashi." Kwashi is the name for a boy born on a Sunday, but it is used as a generic name as we would use Johnny or Tommy. Even now, in Jamaica a simple country fellow is referred to as "Quashie." In this name, I believe the redness refers to the raw areas where the skin has peeled off in the severe and acute cases and not to the hair. MacPherson,[7] on the other hand, believes that, since red is the color of magic and these children are regarded as possessed, the "redness" refers to the *mystique* of the disease. One of the conditions governing the selection of a paramount chief was that he should not have red hair. The supreme virtue of the word kwashiorkor is that it does not make any unwarranted assumptions with respect to etiology or pathology. It was remarked in a *Lancet* editorial that it has the merit of neutrality.

In 1934, Dr. H. S. Stannus [8] wrote an article to the effect that the disease was, in fact, infantile pellagra. Some physicians, with first-hand knowledge of the disease, accepted his assumptions. Further study has generally led to the opposite conclusion; frank cases of the two conditions cannot possibly be confused. But it is obvious that in all types of nutritional disease, mixed cases can occur, and it may be impossible to decide which of the conditions is the dominant type. Soon after this, Dr. H. C. Trowell, working in Kenya and Uganda, began to investigate the condition.[9] At first he accepted the diagnosis of infantile pellagra, and later adopted the name malignant malnutrition. He has now reverted to kwashiorkor. Trowell has made invaluable contributions in the study of the disease and in bringing it to the notice of physicians in many parts of the world. Achar [10] prefers the name nutritional dystrophy.

In recent years kwashiorkor has been described as occurring in every part of Africa, India, China, the Philippines, Fiji, Indonesia, Malaya, South and Central America, the Caribbean Islands, and in Hungary and Italy. In such diverse backgrounds and food patterns, it is obvious that there are multiple factors that may complicate and variegate the picture. The areas where rice or wheat form the main bulk of the diet do not appear to be as subject to the disease as those where maize and root vegetables, such as cassava, yams, sweet potatoes, and Colocasiae are the staple foods.

In 1949, the joint committee on nutrition of the Food and Agricultural Organization (FAO) and World Health Organization (WHO) reported as follows: "One of the most widespread nutritional disorders in tropical and sub-tropical areas is a syndrome, at present ill-defined, known by various names such as 'kwashiorkor,' malignant malnutrition, poly-deficiency disease, 'm'buaki,' 'syndrome dépigmentation oedeme,' infantile pellagra, etc. The committee is satisfied that this condition is not identical with classical pellagra and suggests that the name 'infantile pellagra' should not be used for this syndrome. It appears that the highest incidence of the disease occurs in infants and young children and that the mortality rates in some parts of Africa are disturbingly high." The committee "recommends that WHO conducts an inquiry into the various features of kwashiorkor . . . to define the clinical features and to study the food habits of the population." As a result of this, Drs. J. F. Brock and M. Autret made an investigation and published a report on the condition as it was seen in Africa.[11]

The disease is obviously not a simple one, and it is impossible to produce a simple definition to please all tastes. It is probably due to malnutrition and most likely to some protein defect or defects. There are bound to be many local variants. The presence of intestinal parasites, of mineral, vitamin, or other defects, and concurrent infections will produce modifications. When the disease was first described, the severe, spectacular cases were the main theme, physicians are now able to detect the early cases—the slight swelling of the dorsa of the feet, the slight enlargement of the liver, the mild anorexia, the apathy, and the coldness of the extremities—which in the early days would have been missed or underrated. In fact, a name means very little except to classify a certain conception. Until the pathologists and biochemists can give us more precise information about the defects, we may as well accept the word kwashiorkor in all its cacophony.

In recent years the literature on kwashiorkor and kindred conditions has reached vast proportions. Now that it is receiving worldwide attention and there is more opportunity for exchange of information, it is possible, to some extent, to keep track of the observations in a number of countries. But much confusion is due to misquotation, failure to study references, and the inaccessibility of relevant literature. An excellent summary by the late Professor Altman, published in 1948, is useful.[12] He gives 84 references to literature from 12 countries up to that date. Brock and Autret[11] give a wide but incomplete bibliography. In recent years, most of the papers are reviewed in journals of nutrition and of tropical medicine. They are mainly neglected by the pediatricians, who have not yet attained any degree of geographic versatility.

HISTORY

Invariably the history is of a low protein diet. In the Gold Coast the disease is described as "the sickness of the deposed baby"; that is, it is associated with weaning. In some cases, the breast feeding was inefficient. The mother was sick or was dead, and breast feeding was undertaken by an aunt or a grandmother who had not had a baby for some years. In one case, it was a grandmother whose youngest child was 19 years old. In East Africa, where the condition is much commoner and where the average diet of the population is much worse, the babies start to show the symptoms when they are still being breast fed. This also applies to India. Thus far, the composition of the mothers' milk has not revealed consistent abnormalities, but this subject requires more attention. Certainly, in many of the early cases, the mother's diet has been noticeably poor in proteins. In many parts of Africa, there is little or no cow's milk to be had; in India, even if the cow's milk is available, the animal may be in exceedingly poor condition, and the milk is again from a malnourished source.

The fact that many other children in the community have a low protein diet and have mothers who have a low protein diet and yet do not suffer conspicuously from kwashiorkor is typical of most nutritional stories. There is obviously enormous individual variation in capacity to absorb and utilize the available diet. It often happens that the disease does not become evident unless some added factor such as roundworm, hookworm, or bronchitis is acquired and tips the balance. It is suspected that some persons recover without obvious external signs but with liver damage that may be crippling or fatal in later years.

RETARDED GROWTH AND MENTAL APATHY

Growth is always retarded, even though the child, at first, appears neither emaciated nor ill nourished. In the areas where the disease is rampant, it is found that the weight curves of Kampala (East African),[13] Gambia,[14] and West Indian[3] babies follow the same curves as those of European infants up to about four months and then begin to fall. This symptom, of course, is not specific. If children are regularly observed, as they are at welfare centers, growth failure will be found to precede some attacks of beriberi[15] and many other diseases.

Peevishness and apathy may be the first sign to develop. The child becomes stolid and indifferent. He shows none of the interest and liveliness that are normal to a well-nourished child. If disturbed, he becomes resentful and peevish, but he shows no vigor in his resentment. As the disease progresses, he sinks more deeply into a state of depression and resentment. One of the earliest signs of improvement is that he begins again to show complaisance and then interest or pleasure.[16]

EDEMA

Edema may be a very early sign. Sometimes, in the Gold Coast, the mother would begin to notice a very slight swelling on the dorsa of the feet and then of the hands. When the edema is more generalized, it may mask a severe degree of emaciation. Generally the edema is more marked on the extremities than on the trunk. When there is edema of the face, it is generalized. There is no marked puffiness of the eyelids, as in nephrosis, and there is no marked pendulousness of the cheeks, as in ascariasis. Edema does not usually become extreme as it may do in cases of nephrosis and beriberi. In fact, an injection of thiamine can be used as a diagnostic measure in cases of doubt or when a mixed condition is suspected. Beriberi will respond promptly with a diuretic deluge. The edema of kwashiorkor generally disappears slowly as the child recovers, but in most fatal cases it also decreases before death. Edema may be present at the same time as emaciation. The moribund patient is not always edematous and not necessarily emaciated.

HYPOALBUMINEMIA

In the early descriptions of this disease, there was no opportunity to record blood chemistry; however, various observers have made extensive studies. In the majority of cases it is found that the serum albumin is low (down to 2 gm. per 100 cc.), while the globulin is extremely variable. It has been found that many persons, even children, may have the same, or almost the same, anomalies of serum proteins, without having obvious kwashiorkor.[17]

Dean[18] has summarized the blood findings: "In the seru of these children the total proteins and the albumin we considerably below normal in amount but the globulin wa high. . . . The blood urea was little more than half th normal figure and the total cholesterol was also very lo The ratio of free to total cholesterol, which depends on a enzyme, a cholesterase, whose activity was presumably greatl reduced, was very high, and other enzymes seemed to b affected in the same way; alkaline phosphatase, cholinesteras amylase, and total esterase were all low. . . . The heigh [of globulin] at the start and at the end of treatment are bo due to γ globulin, the α and β globulins are less affecte The albumin rises more than the total globulin so that th albumin/globulin ratio rises, but it seldom goes over unity

Anemia is not an essential part of the disease. In man cases it is insignificant. But children very often react malaria with rapidly developing anemia,[19] and the anem that accompanies roundworms in young children can be severe as that seen in cases of hookworm infection.[20]

DYSPIGMENTATION AND DERMATOSES

"Dyspigmentation" is preferred to "depigmentation," sin the hair not only is bleached but is also changed to a reddis color. The hair changes are not specific. It is well know that any form of wasting disease may affect the color an texture of the hair. Exposure to sun, wind and rain, an salt water may also produce changes that are very simila In West Africa there are persons of pure African ancest who have red hair and are in good health.

In East Africa the hair changes are common and rang from slight softness, or reddish tone, to hair that is dr straight, sparse, staring, and red, pale, or bleached. In India children the hair may be reddish, gray, or white. In man cases of mild nutritional defects, a slight reddish fringe ma be seen over the forehead and around the temples. In som of the very acute cases of kwashiorkor seen in the Gol Coast, the hair changes were not conspicuous. Some of thes cases were rapidly fatal. It may be that the hair changes ma partly depend on a variable mineral depletion. They certainl vary enormously with racial background. It is important t regard the hair changes in the right perspective. If a pigmente 2-year-old baby who has not been exposed to the element and who is not suffering from tuberculosis or another wastin disease has hair that is dry, pale, sparse, and staring, he i probably suffering from some degree of malnutrition of th kwashiorkor type.

The skin changes are the subject of much controversy an should be considered together with other nutritional dermatoses. In the Caucasian race it has long been recognized tha unhealthy persons will not pigment normally on exposure to sunlight. In the pigmented races also, the color and texture of the skin are an important signpost. In many children of pigmented races, wasting diseases are accompanied by pallor. In cases of kwashiorkor this is often well marked. Trowell has noted that very often the pallor on the face is more marked than on the rest of the body. In many persons of pure Negro ancestry reddish hair and skin will develop.

The cases referred to as kwashiorkor by the Accra people were in children who had dark thickened patches of skin on limbs and back, which peeled off, leaving a pink, almost raw surface. Later it was noted that in some countries children seemed to be suffering from the same type of disease, but the skin did not proceed to this dramatic development. In some cases the perineum was the only, or the main area affected. "Crazy pavement"[5] has often been used to describe this condition, but it is not particularly apt. I would suggest instead "peeling pellagroid" to indicate the depth of the desquamation. In fact it is extremely difficult to handle these children without major trauma. Besides soft thickened patches that on peeling leave a raw surface, there is often a generalized desquamation, extending over the trunk.

Severe cases are often accompanied by angular stomatitis and desquamation at the outer canthi, which may be due to some degree of concomitant ariboflavinosis. There may also be photophobia and corneal ulceration. There is often glossitis and buccal ulceration. In the countries where kwashiorkor is commonest, there are also many cases of cancrum oris, and the two are sometimes found in the same person.

In areas where there is much malnutrition, often a glossy dryness is found on the extensor aspect of the tibia. This proceeds to a superficial cracking of the skin and, in the later stages, to a pigmented mosaic appearance that is found mainly in growing children and in adults. The same may appear on the forearms. But this condition is found in places where kwashiorkor is rarely seen; of course, mixed conditions may occur.[21]

It may be that variations in the fat or some mineral content of the diet are concerned in the development of the skin changes.[22] In some instances the skin changes are inconspicuous; in others they are startling. One of the most distinctive points in diagnosis lies in the photosensitivity of the skin in pellagra. In kwashiorkor the lesions may appear on, and be confined to, the areas protected from the light.

GASTROINTESTINAL DISORDERS

Gastrointestinal disorders again are inconstant and irregular. The earliest sign is anorexia. The patient may refuse food or may show a lack of initiative with respect to food. The anorexia may become an extreme problem in treatment. Vomiting is common. Sometimes a child will stolidly go through a meal, quietly vomit the whole lot, and then curl up in bed exhausted and withdrawn. Attacks of diarrhea may alternate with constipation. The stools may be merely loose and slimy or may be those of steatorrhea. There is rarely any blood. Attacks of diarrhea and/or vomiting may delay recovery. Nutrition must be improved with caution.

Ascariasis is common in many parts of the world where kwashiorkor is found. Some observers hold that one depends on the other. Until the present time not nearly enough attention has been paid to the devastating effects of ascariasis on the young child.[23] The infection can be acquired at any moment after birth from the dirty hands of the mother or other attendant, whereas ancylostomiasis does not generally occur until the child is old enough to toddle in places where larvae lurk. One or two male ascarides in the intestines of a young baby may produce no ova but may cause havoc in the digestive system or even death. In countries where there is a high rate of ascariasis, adults who may harbor many helminths in apparent symbiosis will be found. But the effect on the children, who have not yet acquired an immunity, is very different. If a child gets sick, the roundworms often leave the host. In an acute illness, the worms can be observed leaving by any of the orifices and often cause intestinal obstruction if they are in large numbers. In a chronic disease, the "rats may have left the sinking ship" before the child comes under observation. Ascarides may be a factor in the case, although all the worms have departed, and they are certainly an important factor in a large proportion of the cases of kwashiorkor in certain parts of the world. Ascarides may cause liver abscesses and possibly other liver damage.

PATHOLOGICAL CHANGES

Pathological changes are mainly in the liver, and enlargement, fatty infiltration, necrosis, and fibrosis occur singly or in combination. The typical necrosis is cellular, that is, seen only on microscopic section.[3] The liver is generally enlarged. It will go through a stage of considerable enlargement, but in many advanced cases it is shrunken, soft, and so fatty that it is almost diffluent.

There is great variation in the size of the normal liver. Mitchell and Nelson[24] state: "in the newborn infant the liver edge is about 5 cm. below the costal margin in the right midclavicular line. . . . The lower border of the liver may be palpable normally below the subcostal margin throughout childhood." Judging by the frequency of diabetes and Fröhlich's syndrome, American children must suffer more from overfeeding than from underfeeding. Apparently both forms of malnutrition may produce enlarged livers. Most observers in Europe would not agree that the average child of 18 to 24 months had a liver below the costal margin, while in malnourished countries a palpable liver at this age must be regarded as suspect. It is difficult to determine exactly what amount of fat in the liver of a child may come within normal range. Waterlow[25] gives 4 to 5% as normal, but he has found that children with kwashiorkor may have up to 30% of fat even before there are gross external signs.

In the earlier studies of kwashiorkor[26] a fatty infiltration of the liver was the most constant and the only conspicuous defect. In some of the more chronic cases, the fat seemed to be disappearing, and the liver was flabby, with extensive necrosis. In most of the later work the changes in the liver have been far more carefully studied. Waterlow[27] has found all stages of fatty change in the West Indies; however, the babies in the Gambia began to have fibrosis at extraordinarily early stages, without any previous fatty degeneration. Jelliffe and Silvera[28] have found fatty livers present in the early weeks of life long before other symptoms had developed, so the disease may start as intrauterine malnutrition. With the development of the techniques of liver biopsy, it is now possible to study these diseases far more accurately, and this will lead to better definitions and more specific treatment and prevention. Waterlow[27b] first described the atrophy of the external secretory cells of the pancreas. Davies,[29] in an important study of the pathological changes, described fibrosis of the pancreas as well as of the liver. He believes the pancreatic lesion to be the primary one.

OTHER FINDINGS

Trowell and Thompson[30] have done some extremely careful and interesting work. Taking edema, without obvious renal or cardiac cause, hair changes, and subnormal weight as the criteria for diagnosis, and using normal African children for comparison, they found a well marked reduction in amylase, lipase, and trypsin that was reversed with a high intake of milk protein. Veghelyi,[31] working in Budapest, has also described the defective enzymes.

In the Gold Coast patients coldness of the extremities was very important. Even in an equatorial climate this sign was conspicuous. Keeping the child warm was found to be one of the most important points in treatment of all the advanced cases. A radiant heat cradle would facilitate recovery in no uncertain degree.

LATE RESULTS AND DIFFERENTIAL DIAGNOSIS

Cirrhosis and carcinoma of the liver are common in some of the countries where kwashiorkor is found. What the exact relation is between these conditions has not yet been proved. Infantile hepatic cirrhosis developing into portal cirrhosis, so common in India and Ceylon,[32] and serous hepatosis, probably related to it, described by Hill[34] in Jamaica, are also very likely to be of nutritional origin. The place of infection, such as infectious hepatitis, in this picture is not yet clear. In these cases, the patient looks well nourished and cheerful. Ascites may be an early sign. The liver is enlarged and hard, but biopsy shows no fat. There is a typical exudate that leads to fibrosis. Of course, some mixed cases occur.

Brock and Autret[11] give the following definition of the disease: "A nutritional disorder occurring particularly in the age period six months to five years . . . associated with low protein diet.

The fundamental characteristics of the syndrome are:

1. Retardation of growth.
2. Dyspigmentation of hair and skin.
3. Edema usually associated with hypoalbuminaemia.
4. Pathological changes in the liver including one or more of the following—fatty infiltrations, necrosis, and fibrosis.
5. A heavy mortality if untreated or incorrectly treated.
6. Nutritional dermatosis—occurs in a variety of patterns, but may be absent.
7. Gastrointestinal disorders. These are variable and include one or more of the following—anorexia, digestive upset, diarrhea, mild steatorrhea.
8. Peevishness and mental apathy.

Unfortunately the order is illogical, and this study only refers to Africa; but the statement will serve as a basis for discussion.

Pellagra is the main condition with which confusion is likely to arise. It cannot be stated too often that there is nothing to prevent the finding of mixed conditions. The differential diagnosis was previously stressed,[34] but it may be useful to repeat it.

	Kwashiorkor	Pellagra
1.	Common in young children	Rare in young children
2.	Well-developed dermatitis indicates a severe degree of the disease	Severe dermatitis may occur before constitutional signs develop
3.	Rash has no relation to exposed areas	Skin is photosensitive. Rash is only on exposed areas and *will disappear if skin is protected*
4.	In early stages skin may be bleached. No well-marked *edge to rash*	Early stage of rash is red, swollen, and irritating, with *well-marked edge*
5.	In later stages skin is dark, soft, and crumpled and strips easily, leaving raw surface	In later stages there is a dry, branny desquamation
6.	Disease may develop in patients on a diet containing some milk	Disease not described with milk diet
7.	Large mortality if untreated	Rarely fatal

Kwashiorkor differs from total undernutrition in that the actual intake of calories may be sufficient, but the excess of carbohydrate in relation to protein is damaging. Other factors are important, such as the various amino acids and the proportion in which they appear in the diet. The disease differs from marasmus in that severe illness and death may take place long before there is emaciation.

Hunger edema generally decreases with rest and often increases after a balanced diet has been started, but has many features in common with kwashiorkor. It is, in fact, a part of the syndrome, but it can exist in adults with a normal liver and with serum proteins only slightly altered. Kwashiorkor is associated with hypoproteinemia.

MORTALITY

In the early days, when the disease was not diagnosed until its late stages, the mortality was high, up to 80%, but since then the condition has been more extensively studied and the mortality reduced. In certain areas the hospitals are still confronted with numbers of patients in the late stages of the disease, many of whom die of it or of some intercurrent condition. In these areas too, it is difficult to maintain follow-up. Even patients who leave the hospital vigorous and, apparently, in perfect health may, a few months later, die of the same disease.

TREATMENT

In early days[35] it was found that patients would respond to milk in the diet, and now it is proved that milk protein is curative if irreversible changes have not already set in. Achar[10] has had good results with blood transfusions and concentrated human serum. Most physicians have found it essential to reduce the edema before much intravenous nutrient can be given. In this the radiant heat cradle is most useful, and when possibility of beriberi is a complication, thiamine injections should be tried. Protein hydrolysates have been used with good but variable results.

Feeding often presents great difficulties. If the child is still breast fed, the mother's diet must receive attention and supplements must be given to the child. If the child is weaned, it may be extremely difficult to induce him to take any other food than the boiled banana (*matoke*) or cornmeal or food to which he is accustomed. He will often refuse to dr milk. In these cases, milk protein in powder form can mixed with the accustomed food until the appetite impro In South Africa[32d] the Gillmans reported good results w dried hog stomach, but this has not been found successful other places. Nicotinic acid has been reported in some ar to improve the skin condition, but this again is not a univer finding. It must be remembered that the skin condition of improves when the patient does not. Also that in some patie who die, the skin condition may show marked improvem before death, even without nicotinic acid. Assessing result difficult, because it is not possible to compare relative c ditions when the child is admitted to the hospital. In cases severe anorexia a nasal tube with a slow drip may be used

It is important to remember that much depends on in ligent and devoted nursing. Warmth, interest, and encoura ment are needed, and patience and persistence on overcom the anorexia. Small, frequent meals should be given, will high proportion of milk protein and, at the beginning, v little fat. Food yeast or grated cheese added to the milk r make it more acceptable. Dean[33] finds that the patients Kampala were intolerant of lactose, glucose, sucrose, maltose but that *matoke,* boiled green bananas, provide more successful source of carbohydrate. Dean also found t soybean protein could be used instead of milk. This is exceedingly important discovery for countries where milk unobtainable or in short supply.

Besides careful attention to general nursing and to the other deficiency diseases must be treated. Anemia, berib and ariboflavinosis are not uncommon. Malaria must be cluded. Platt[36] is of the opinion that these children car tolerate antimalaria drugs very well. This also applies anthelmintics, and deworming must be carried out with greatest caution. Only by efficient follow-up work thro outpatient clinics, dispensaries, and welfare centers in c touch with the hospitals can permanent cures be clain It is a waste of time to investigate these diseases or to c them in hospitals if teaching in the homes and parent e cation is neglected.

PREVENTION

Kwashiorkor is prevented by a reasonably good diet mother and child. It is a melancholy reflection on the defects of tropical medicine that a disease so spectacular so widespread should have been ignored for so long. We hunger and the rise of communism are the two things m dreaded in the free world. The two are interrelated, and prevention of kwashiorkor is concerned with the same pr lems. Investigations on this disease are by no means compl but we know enough to cure the disease in 95% of cases to prevent it in everyone. While many of the most able in lects are at work finding out more scientific details of path ogy, there are extraordinarily few attempts being made methods of insuring prevention. Yet if we can prev kwashiorkor, we can also prevent world hunger and ot evils.

Prevention lies in teaching the parents what food to prov for themselves and their children. In many areas this food not available at present; only comprehensive undertaki that will coordinate agriculture, education, and health can of any use. In many other areas it is ignorance, prejudi and wastefulness that is responsible—not poverty.

Disease control projects, relatively easy to apply, h absorbed both the national and the international agencies. T result has been vast increase in populations, without comparable improvement in the standard of living or e cation. Blind craving for spectacular results is leading strai to disaster. It is time that medicine realized that its duty to aim not only for healthy minds in healthy bodies but healthy persons in a healthy community.

If the medical leaders had any sense of proportion, th would be changing over as rapidly as possible in order adjust the balance before disaster overtakes man. They wou devote their best men and their largest finds to the co structive side of medicine—education toward healthy livi physical and mental, training of personnel, and follow-up which is social medicine.

Many persons are doing research in electronics and in the more abstruse sciences. In order to make a balanced world, we should provide far more persons who can and who will experiment in methods of propagating improved mental and physical health. We worry a great deal about the persons we want to liberate from political tyranny, and we ignore those we could and should liberate from the tyrannies of dirt, ignorance, and hunger.

In many parts of the world, maternal and child health work is now established, but too often it is grossly inadequate, both in extent and intent. It is the method par excellence of reaching the parents, the homes, the schools, and of improving the nutrition. This type of work cannot be done on any preconceived pattern. It must be adjusted to the needs and resources of each country. It needs the most careful observation, evaluation, and planning if results are to be achieved. Too often this work is regarded as a mere appendage, to be left to the uncertain care of voluntary societies. It may be scorned by the hospitals, directed by health officers who have no interest in it, and carried out by nurses who have little or no training in pediatrics, nutrition, or social dynamics. "Social welfare" is often engaged in expensive failures because it ignores the needs, the techniques, and the opportunities of health and nutrition.

Child health work is often discouraged by those who are most apprehensive of overpopulation. They ignore the obvious; persons who are interested in the future of their children do not breed recklessly. The countries in which the care of children is most emphasized are not those with an excessive birth rate, nor do they breed weaklings, mental or physical.

All over the world the medical authorities have been dazzled by the ease and by the results of mass methods of prevention and by the heroics of therapeutic miracle. It is urgently necessary for the leaders of medicine to cultivate that rare and most necessary factor, common sense, and to decide, with McCollum, that society must measure its well-being in terms of the health of its children.

COUNCIL ON PHYSICAL MEDICINE AND REHABILITATION

REPORT OF THE COUNCIL

The Council has authorized publication of the following article.

Ralph E. De Forest, M.D., *Secretary*.

INTRACERVICAL AND INTRAUTERINE DEVICES

Some contraceptive methods are not health hazards, whereas others endanger the well-being and health of their users. The booklet, "Apparatus Accepted by the Council on Physical Medicine and Rehabilitation," lists diaphragms and sheaths. When these products are used correctly, the evidence available indicates that they are not health hazards.

In general, intracervical and intrauterine devices are hazardous to the user. These devices are of various shapes and styles, but all have in common a cap that is held over the os uteri externum by a stem that flares in one way or another within the uterus to hold the pessary in place. Pessaries can have a legitimate use and can be highly effective for therapeutic purposes as a means for obtaining drainage, when conditions so indicate.

There can be little doubt, however, that these devices are promoted by some firms primarily for the prevention of conception. One such device has a stem with three conical enlargements aligned so that their apexes point into the uterus. At one end are two prongs and at the other end is a soft rubber button about the size of a nickel. The entire pessary is covered with a coating of rubber. The advertising does not state directly that the pessary is used for contraception. To circumvent this direct claim, the advertising is subtly worded to imply such use, as for example:

> The valvelike action of the cones impedes the progress of flagellate organisms. These organisms become exhausted, their vitality is lowered, their motility reduced and they perish.
>
> The cones, by exerting a gentle pressure upon and by being in constant contact with the ciliated epithelial lining of the cervical canal, interrupt the normal wavelike motion which sweeps inward, thus again impeding the advance of organisms which depend upon this ciliary motion for progress.

Another firm's illustrated catalogue of items for planned parenthood includes diaphragms, contraceptive jellies and creams, diaphragm inserters, and fitting rings and devotes one-half of a page to describing a pessary very similar to the one just described.

The use of stem pessaries has been discontinued by most physicians because of the danger of uterine injury and pelvic infection. Nevertheless, there still appear to be some champions for the contraceptive use of these devices. Although the evidence is not conclusive to indicate that carcinoma has been developed through the use of these devices, the evidence is quite clear to show that uterine and cervical infections may be traced to their use. Pelvic inflammatory diseases and abscesses have necessitated surgical intervention. The metal cervix pessaries have caused endometritis and obstruction to drainage resulting in widespread pelvic infection. Cellulitis may develop from a lost stem which frequently works its way farther upward into the uterus and produces a foreign body reaction. Furthermore, stems may perforate the uterine wall or uterine blood vessels and become embedded so as to create a pathway for the ascent of bacteria into the uterus. Pregnancy may occur in the presence of an intracervical pessary, and if the device remains in place longer than one month, it is likely to cause abortion.

The Council on Physical Medicine and Rehabilitation condemns the use of these devices as a method of achieving contraception because of the lack of evidence to indicate that the device is "nonirritating," "noninjurious," or causes "no troublesome after-effects."

APPARATUS ACCEPTED

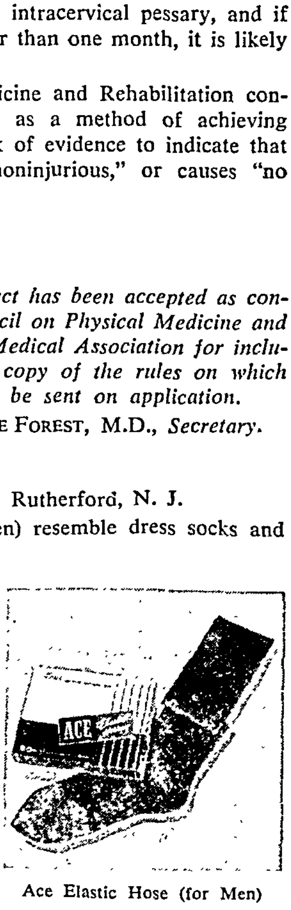
The following additional product has been accepted as conforming to the rules of the Council on Physical Medicine and Rehabilitation of the American Medical Association for inclusion in Apparatus Accepted. A copy of the rules on which the Council bases its action will be sent on application.

Ralph E. De Forest, M.D., *Secretary*.

Ace Elastic Hose (for Men)

Becton, Dickinson and Company, Rutherford, N. J.

The Ace Elastic Hose (for Men) resemble dress socks and extend to a level just below the knee. They are made of nylon-covered rubber and have complete feet. The weave is described as a two-way stretch. The toe is made of nylon only (no rubber) and the heel of double thread nylon-covered rubber to provide elasticity. The cuff or self-gartering portion of the stocking is made of nylon-covered rubber, double thickness, and has a minimum width of 5 cm. (2 in.) to prevent binding. For the realization of the intended beneficial effects, a proper fit is essential, especially since too tight a fit at the upper end of the stocking will impede venous return flow. Since this stocking ends below the knee, its usefulness in persons with varicose veins is limited to lesions below that level.



Ace Elastic Hose (for Men)

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SURVEY OF PHYSICIAN ATTITUDES

The Council on Medical Service, through its Committee on Prepayment Medical and Hospital Service, is now conducting a survey of physician attitudes concerning voluntary health insurance. With voluntary insurance programs of many types insuring increasing numbers of persons, the attitude of physicians is most important to its continued growth and success. It is the physician who certifies whether a person is disabled and thereby eligible to receive insurance benefits. The physician is also the one who certifies when the patient recovers, when he returns to work, and when he ceases to receive those benefits. In the realm of hospital, surgical, and medical expense benefits the physician is again the one who certifies the need for hospitalization, surgery, etc. In addition, the physician derives a substantial source of his personal income by virtue of insurance benefits that assist insured patients in financing their health care.

There is no uncertainty about the attitude of the vast majority of practicing physicians concerning the relative merits of the many forms of voluntary health insurance over any compulsory tax scheme. Likewise, there is little doubt relative to the opinions of spokesmen for certain nonmedical and noninsurance groups concerning their attitudes about what voluntary insurance can and should accomplish. Insurance, like medicine, is an exacting science and can accomplish only that which comes within the scope of its natural limitations.

Many questionnaires and many opinion surveys have been designed since the advent of health insurance. None, apparently, has attempted to gather information that would indicate the attitude of physicians concerning certain aspects of voluntary health insurance. This is the purpose of the current survey. The Bureau of Medical Economic Research is mailing the questionnaire to avoid the possibility of having the same physicians receive more than one type of questionnaire currently emanating from American Medical Association headquarters.

Health insurance, at times, is subjective. It has created a vocabulary comparatively new to many who have been interested in the topic. The same terms and phrases convey different meanings to different persons according to their own experiences or to the sources of their information. Considerable care has been taken in preparing the current questionnaire to minimize misinterpretations and maximize the accuracy of tabulating opinions in a difficult field. Among other things it is necessary to know to what extent insurance plans may affect the traditionally confidential relationship between the patient and the physician. The survey is also designed to learn how physicians feel about the extent to which insurance involves them in the realm of service benefits and in their financial relationships with patients and how they feel toward the different types of generally available insurance plans.

Although the survey is sponsored by the Council on Medical Service through its Committee on Prepayment Medical and Hospital Service, the questionnaire itself was prepared after deliberations with the Bureau of Medical Economic Research and consultations with a Committee from Blue Shield Medical Care Plans and other groups. The success of any survey is contingent on an adequate sampling coupled with sufficient returns from which to draw reliable conclusions. For the most part, the questionnaire is designed to facilitate completion with a minimum of time and effort. It is to the advantage of the physicians who receive these questionnaires mailed on a random sampling to study them carefully, complete them to the best of their ability, and return them promptly. In this way they will be more properly represented in committee and national conferences involving health insurance.

BLEEDING ESOPHAGEAL VARICES

Esophageal varices develop secondarily to partial or complete obstruction of the portal blood flow at the junction of the esophagus and cardia of the stomach between the coronary vein, a branch of the portal circulation, and the esophageal veins, branches of the azygos vein of the systemic circulation. Portal hypertension may be one of two types, intrahepatic or extrahepatic, or a combination of both. A high retention of sulfobromophthalein in the blood 30 minutes after intravenous injection, a positive reaction to the hippuric acid test, and reversal of the albumin-globulin ratio all point to the diagnosis of cirrhosis of the liver with intrahepatic portal block. In the absence of these findings, one can assume that the block is extrahepatic. Intrahepatic block may be caused by portal cirrhosis of the Laennec type or by thrombosis of the hepatic veins, the so-called Chiari syndrome. The extrahepatic block may be congenital or the result of thrombosis of the portal vein or of one or more of its tributaries. A combination of the two main types may occur. The syndrome of extrahepatic portal bed block described by Banti is characterized by secondary anemia, leukopenia, splenomegaly, and a tendency to repeated massive gastrointestinal hemorrhages, most frequently associated with ruptured esophageal varices.

Exsanguination from bleeding esophageal varices is a frequent cause of death, particularly in portal hypertension with cirrhosis of the liver. Apparently the portacaval shunt created by the natural anastomosis of the two systems at the gastroesophageal junction is inadequate to prevent increased intraportal tension and development of esophageal varices.

Most workers in this field felt that the definitive treatment of bleeding esophageal varices should be one capable of permanently lowering the tension in the portal system. To accomplish this end, attempts were made to establish a portacaval shunt either by anastomosis of the portal vein to the vena cava or by an end-to-side anastomosis of the splenic to the renal vein. The idea of shunting portal blood into a systemic vein was conceived by Eck, a young Russian doctor, working in Pavlov's laboratory in 1877. He performed successfully an anastomosis between the portal vein and the vena cava in a dog. The recent interest in portacaval shunts in the treatment of portacaval hypertension in human beings has resulted at least partially from the nonsuture method for blood vessel anastomosis devised by Blakemore and Lord.[1] The shunt procedures, however, are too formidable to be safely performed at the time of an acute hemorrhage. A number of methods were therefore attempted to treat the acute massive hemorrhage caused by a ruptured esophageal varix. Among these were ligation of the splenic artery, ligation of the splenic and hepatic arteries, injection of the esophageal varices with sclerosing solution, esophagogastrectomy, total gastrectomy, and esophageal tamponage.

The method of balloon tamponage to control bleeding esophageal varices was first reported in 1930 by Westphall (as quoted by Linton).. Rowntree and associates [2] reported in 1947 successful use of a balloon tamponage in two grave cases of massive bleeding due to esophageal varix. Sengstaken and Blakemore [3] treated successfully 30 patients with acute hematemesis with a nasogastric tube bearing a reinforced balloon. Blakemore [4] recommended leaving the tube-balloon type of tube in the stomach and the esophagus for a week or more, feeding the patient through a third lumen in the tube. The tamponage method, temporarily successful, was not infrequently followed by a recurrence of bleeding after the nasogastric tube was removed. Linton and Warren [5] stress that in patients with signs of impending hemorrhagic shock immediate balloon tamponage should be performed and this should be followed, as soon as the hemorrhage is controlled, by an emergency operation consisting of a transesophageal suture of the varices.

Crile [6] in 1950 reported on seven patients with severe recurring bleeding whom he successfully treated by transesophageal ligation of the varices. He regarded this procedure as a definitive operation rather than one to control the bleeding only at the time of hemorrhage. Linton and Warren,[5] however considered it as a lifesaving procedure at the time of acute hemorrhage but not as a definitive treatment of esophageal varices. They believed that this could be accomplished only by the formation of some portacaval shunt. The time interval between the two procedures, it was felt, should allow for maximum improvement in the underlying liver cirrhosis.

The rationale of the portacaval shunt for the relief of portal hypertension, as pointed out by Blakemore,[4] has been adequately corroborated by portal pressure measurements made at the time of the operation before and after the establishment of shunts. The establishment of an anastomosis of the portal vein to the vena cava or the splenic vein anastomosed end to side with the left renal vein following splenectomy creates a shunt with a low resistance to blood flow. Under these circumstances a large volume of blood will pass from the relatively high pressure portal system directly into the low pressure caval system via the shunt. This results in a marked reduction of the portal pressure. Linton [7] reported on 77 patients who survived the formation of a portacaval shunt; 8 of these patients (10.7%) are now dead and the remaining 69 (90%) are alive and for the most part in good health. Blakemore [4] reported an over-all operative mortality of 17.8% for a series of 140 cases.

Factors influencing operative risk are those of the functional status of the liver and the deleterious effects on the liver of the long-standing portal hypertension. The improvement in the operative results in the last few years is due to advances in the medical treatment of cirrhosis of the liver and the knowledge that a cirrhotic liver fortified with proteins, carbohydrates, and vitamins, if protected against anoxia, is far more resistant to decompensation following surgery than a liver not so supported. The availability of whole blood, plasma, and human albumin for the correction of anemia, restoration of blood volume, restitution of depleted proteins, achievement of potential control of infection, and control of blood clotting all, according to Blakemore,[4] are important factors favoring success with venous shunt procedures.

GASTRODUODENAL HEMORRHAGE

Rappaport [1] has brought into focus a perplexing problem in a way that should benefit many future patients with gastroduodenal hemorrhage. Although in some cases the source of the hemorrhage cannot be found, he is specially concerned with that group in whom lesions presumed to be the cause of the hemorrhage are detected by roentgenogram or gastroscopy and in whom at operation the surgeon is unable by palpation and inspection to detect any lesion. He presents five such case reports of patients in whom a first operation failed to reveal the suspected lesion and a second operation was necessitated by a persistence of symptoms. In two of these cases an adenocarcinoma was found. One patient died three months later and the other recovered and had no recurrence of the hemorrhage. One other patient was found to have a lymphosarcoma and died two years after the second operation. The two remaining patients, one with a lipofibroma and one with a duodenal ulcer, recovered and had no recurrence of hemorrhage. Rappaport concluded that palpation and inspection of the stomach at operation may be unreliable and that when there is strong roentgenologic or gastroscopic evidence of a lesion the surgeon should make a greater effort to substantiate these findings, by opening the stomach if necessary.

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MEDICAL NEWS

CALIFORNIA

Symposium on Infectious Diseases.—The California Academy of General Practice in conjunction with Lederle Laboratories will present on Dec. 9 at 10 a. m. a symposium on acute infectious diseases at the Hotel Del Coronado, Coronado. Luncheon will be served. There will be no registration fee.

Pathologists Meet in San Francisco.—The California Society of Pathologists will hold its annual meeting at the Fairmont Hotel, San Francisco, Dec. 5-6. The program, under the auspices of the California Society of Pathologists, the southwestern region of the College of American Pathologists, and the Cancer Commission, will include papers on trace metals and hepatic clearance, a panel on chromatography, and a tumor slide conference.

School Celebrates Anniversary.—The 25th anniversary of the University of Southern California School of Medicine, Los Angeles, was celebrated with a banquet and a convocation on phases of medical education and research, Sept. 24-25. At a dinner at the Ambassador Hotel, Dr. Alan Gregg, medical director of the Rockefeller Foundation in New York, gave an address. At a convocation at the Los Angeles County Hospital, Dr. Paul D. White, Boston, Dr. Hugh J. Morgan, Memphis, and Dr. Arthur L. Bloomfield, San Francisco, were the speakers on whom honorary degrees were conferred for outstanding service in the field of medicine.

CONNECTICUT

Geriatric Study.—Meriden has been selected as the site for an intensive study of the potentials of the aging, according to an announcement by the chairman of the commission to study the potentials of the aging, appointed by Gov. John D. Lodge last July. The final report is to be made on or before July 1, 1954.

Personal.—Dr. Thomas P. Murdock, Meriden, has accepted appointment by Gov. John D. Lodge as the physician member of the state commission, authorized by the 1953 General Assembly, to study the possibilities of the development of a regional professional school including medicine.——Dr. Norman L. Cressy has been appointed director of medical education at Uncas-on-Thames, state tuberculosis sanatorium, Norwich. Dr. Cressy served on the Respiratory Disease Commission, U. S. Army, during World War II, and was previously instructor in medicine, Yale University School of Medicine, New Haven.——Dr. Albert S. Gray, who retired July 1 as deputy commissioner of the Connecticut State Department of Health, has been honored with life membership in the Connecticut Safety Society. The award was presented during the society's meeting on Sept. 28 by Everett W. Martin, past president.

DELAWARE

State Medical Election.—At the annual meeting in Wilmington, the Medical Society of Delaware elected Dr. Hewitt W. Smith, Harrington, president, Dr. Lewis B. Flinn, Wilmington, president-elect, Dr. Glenn W. M. Van Valkenburgh, Georgetown, vice-president, Dr. Norman L. Cannon, Wilmington, secretary, and Dr. Charles Levy, Wilmington, treasurer.

Personal.—A citation was presented to Dr. George H. Gehrmann, Wilmington, medical director of the DuPont Company, by the Malvern (Pa.) Institute for Alcoholism and Psychiatric Studies, in recognition of "the exemplary leadership and courage he has displayed in furthering the treatment, understanding, and welfare of the alcoholic patient and for many years of outstanding service in this cause."

Meeting on General Practice.—The Delaware Academy of General Practice will hold its annual scientific session on Dec. 12 at the Delaware Academy of Medicine in Wilmington. At 10 a. m. Dr. Herman K. Hellerstein, Western Reserve University School of Medicine, Cleveland, will deliver the William J. Urie, M.D., memorial lecture, "The Rehabilitation of the Cardiac," sponsored by Wyeth, Philadelphia. The following program will then be presented:

Drugs and Procedures in Treatment of Peripheral Vascular Diseases, Meyer Naide, Woman's Medical College of Pennsylvania, Philadelphia.
Pathophysiology and Treatment of Congestive Heart Failure, Thomas M. Durant, Temple University School of Medicine, Philadelphia.
Useful Medications in Gastroenterology, James L. A. Roth, Graduate Hospital of the University of Pennsylvania, Philadelphia.
The Electroenterogram, A. Lee Lichtman, New York Polyclinic Medical School and Hospital, New York.
Parenteral Carbohydrate Therapy in Medicine, Jacob J. Weinstein, George Washington University School of Medicine, Washington, D. C.
The Management of Pain, Donald H. Stubbs, George Washington University School of Medicine, Washington, D. C.
The General Practitioner as a Urologist, Elmer Hess, Erie, Pa.

At 7 p. m. the annual banquet and dance will be given at the Brandywine Country Club. The guest speaker, Dr. John S. DeTar, Milan, Mich., speaker of the house of delegates, American Academy of General Practice, will discuss "The General Physician and His Problems."

FLORIDA

Society News.—The Florida Pediatric Society has elected Dr. C. Jennings Derrick, West Palm Beach, president, and Dr. Wesley S. Nock, Coral Gables, secretary-treasurer.

Narcotic Violation.—Dr. James Ryan Chandler Sr., Daytona Beach, pleaded guilty in U. S. District Court at Jacksonville to violation of the federal laws relating to the illegal use of narcotics (USC Title 18, Section 494) and on Aug. 21 was sentenced to serve a term of two years.

Otologic-Ophthalmologic Seminar.—The eighth annual University of Florida Midwinter Seminar in Ophthalmology and Otolaryngology will be held at the Sans Souci Hotel, Miami Beach, the week of Jan. 18, 1954, lectures on ophthalmology being presented Jan. 18-20 and on otolaryngology, Jan. 21-23. A midweek feature will be the Midwinter Convention of the Florida Society of Ophthalmology and Otolaryngology, Jan. 20, to which all registrants are invited. The registrants and their wives may also attend the informal banquet at 8 p. m. Wednesday. The seminar schedule permits ample time for recreation. Lecturers on ophthalmology will be Drs. William B. Anderson, Durham, N. C., William P. Beetham, Boston, William C. Owens, Baltimore, Algernon B. Reese and Maynard C. Wheeler, New York; lecturers in otolaryngology, Drs. Edwin N. Broyles, Baltimore, Howard P. House, Los Angeles, William J. McNally, Montreal, Canada, Dorothy Wolff, Ph.D., and Dr. Degroff Woodman, New York.

ILLINOIS

Fellowships in Statistics.—Three $4,000 postdoctoral fellowships in statistics are offered for 1954-1955 by the University of Chicago to holders of the doctor's degree or its equivalent in research accomplishment. The purpose of these fellowships is to acquaint established research workers in the biological, physical, and social sciences with the role of modern statistical analysis in the planning of experiments and other investigative programs and in evaluation of empirical data. The closing date for applications is Feb. 15, 1954; instructions for applying may be obtained from the Committee on Statistics, University of Chicago, Chicago 37.

Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

Chicago

Dr. White to Lecture on Rheumatic Fever.—The first annual Harry G. Remer lecture on rheumatic fever will be delivered by Dr. Paul D. White, Boston, Dec. 11, 8 p. m., at La Rabida Sanitarium. This lecture is open to the public and is free.

Dr. Baker Appointed Professor of Urology.—Dr. Roger C. Baker Jr., associate professor of urology, University of Chicago School of Medicine and the Albert Merritt Billings Hospital, has been appointed professor of urology at the Georgetown University School of Medicine, Washington, D. C. Dr. Baker has engaged in work in urology also at the U. S. Naval Hospital in Philadelphia and the Massachusetts Memorial Hospitals in Boston. In 1950 he received the annual research award of the American Urological Association.

Medical Stamps.—At the annual exhibit of the Philatelic Society in Chicago, Dec. 3-5, Miss Margaret M. Bates, medical sciences librarian, University of Illinois, is exhibiting 54 pages of stamps depicting medical and scientific achievements from mythology and from Greek, Arabic, and Egyptian medicine and the subsequent primitive witch doctor, to the era of scientific specialization. Physicians who were statesmen, presidents of their countries, and explorers, others honored for their medical achievements, and cancer, leprosy, bacteriology, pathology, medicine, child welfare, and medical congresses are among the subjects.

Personal.—Dr. August F. Daro was elected chairman of the obstetric and gynecologic section of the International College of Surgeons at the annual meeting in New York.——Richard J. Winzler, Ph.D., professor and head of the department of biochemistry, University of Illinois College of Medicine, has been named consultant to the department of biochemistry of Cook County Hospital and the Hektoen Institute for Medical Research.——Dr. Ulysses G. Dailey, past president of the National Medical Association and former editor of its journal, has returned from a second tour of foreign countries under the auspices of the U. S. Department of State, as "leader-specialist" of the U. S. Information and Educational Service. Dr. Dailey delivered addresses at the All-Pakistan Medical Conference in Lahore, the India Medical College in Gwalior, the University of Ceylon, and numerous meetings of medical associations and special groups in Pakistan, India, Ceylon, and Africa.

IOWA

Society News.—Leslie M. FitzGerald, D.D.S., Dubuque, president-elect of the American Dental Association, was recently honored by the Dubuque County Medical Society at a banquet and program in the Hotel Julien, Dubuque. Officers of the American Dental Association and the Iowa State Dental Society were guests, together with the Dubuque County Dental Society and many dentists from Iowa, Illinois, and Wisconsin.

MICHIGAN

Lecture on Arthritis.—The Wayne County Medical Society, Detroit, will have as its speaker, Dec. 7, Dr. Otto Steinbrocker, New York, who will discuss "Treatment of Arthritis."

Edsel B. Ford Lecture.—On Dec. 8, at 8:15 p. m. in Henry Ford Hospital auditorium, James Hillier, Ph.D., research physicist, R.C.A. Laboratories, Princeton, N. J., will present the Edsel B. Ford lecture, "Some Results of the Application of Electron-Microscopy to Medicine."

Medicolegal Institute.—This institute, under the sponsorship of the State Bar of Michigan, will be held at the Sheraton-Cadillac Hotel, Detroit, Dec. 10-11. This will be the first "integral short course" of an over-all "three interval course," each to follow at an approximate six month period. Members of the Michigan State Medical Society are cordially invited. Advance registrations may be made by sending $25, payable to the Michigan Law Institute, % State Bar of Michigan, 412 Olds Tower Bldg., Lansing.

MISSOURI

Lecture on Gout.—Dr. Alexander B. Gutman, professor of medicine, Columbia University College of Physicians and Surgeons, New York, will speak in the Auditorium of Kansas City Municipal Hospital No. 1 on Dec. 17 at 8 p. m. His subject will be "Gout."

Society News.—The St. Louis Society of Neurology and Psychiatry will have as guest speaker on Dec. 10 at 8:15 p. m. Dr. Henry A. Davidson of the Veterans Administration Central Office, Washington, D. C., who will present "Role of the Psychiatrist in the Administration of Criminal Justice." Discussion will be by Dr. Val B. Satterfield of St. Louis. The meeting will be held in Elliott Auditorium of McMillan Hospital, St. Louis.

Personal.—Dr. Julius Jensen, St. Louis, has received the Distinguished Service award given annually by the American Medical Writers' Association to a member of the association, "who has made distinguished contributions to medical literature or rendered unusual and distinguished service to the medical profession." Dr. Jensen is president-elect of the Missouri Heart Association, a former professor at Washington University School of Medicine, and the author of books and scientific articles.

NEW JERSEY

Joint Meeting for Martland Lecture.—The Essex County Pathological and Anatomical Society will meet with the Academy of Medicine of New Jersey and the Essex County Medical Society, Dec. 9, 9 p. m., at the Academy of Medicine, 91 Lincoln Park, Newark, to hear Dr. Paul Klemperer, pathologist to Mount Sinai Hospital and professor of pathology, Columbia University College of Physicians and Surgeons, New York, deliver the Harrison S. Martland lecture. A dinner will precede the meeting.

Tumor Slide Seminar.—The New Jersey Society of Clinical Pathologists will hold its annual slide seminar on unusual tumors at the Nurses' Auditorium of Presbyterian Hospital, Newark, Dec. 12, 2 p. m. Drs. Fred W. Stewart and Frank W. Foote Jr. of the Memorial Center for Cancer and Allied Diseases, New York, will act as moderators. Slides and case histories prepared by the Bureau of Pathology, New Jersey State Department of Health, are being sent to all members of the state society of pathologists. Voting on the slides will be analyzed by Drs. Stewart and Foote at the meeting. Visitors to the seminar will be welcome.

General Practitioners Meet in Newark.—The New Jersey Academy of General Practice will hold its annual scientific session Dec. 9 at the Hotel Essex House, Newark. "Office Diagnosis and Treatment of Upper Gastrointestinal Disturbances" will be developed in the following program:

Moses Paulson, Baltimore, Practical Consideration of Functional Disorders of the Stomach.
Eddy D. Palmer, Washington, D. C., Specific and Nonspecific Gastric Inflammation, Using Office Methods for Diagnosis.
Emmanuel Deutsch, Boston, Gastric Cancer.
Sara M. Jordan, Boston, Treatment of Peptic Ulcer with Special Emphasis on the Use of the Newer Drugs.

All physicians are invited. There is no registration fee.

NEW YORK

Hospital News.—The Jewish Sanitarium and Hospital for Chronic Diseases, Brooklyn, will present "Urologic Complications in Gynecology" by Dr. Houston S. Everett, associate professor of gynecology, Johns Hopkins University School of Medicine, Baltimore, Dec. 10, 8:30 p. m., in the auditorium. Dr. Everett is the author of "Gynecological and Obstetrical Urology." Medical guests are cordially invited.

Meeting on Circulatory Diseases.—The New York Society for Circulatory Diseases will devote its regular meeting, 8:30 p. m., Dec. 8, in the New York Academy of Medicine building, to consideration of treatment of acute cardiac emergencies in myocardial infarction. Dr. Maurice L. Tainter, director, Sterling-Winthrop Research Institute, Rensselaer, will speak on shock, and Dr. Herbert J. Kayden, clinical instructor in medicine, New York University College of Medicine, will discuss "Paroxysmal Arrhythmias and Heart Block."

Appointments at Brookhaven Laboratory.—Recent appointments to the medical department of Brookhaven National Laboratory, Upton, include: Drs. George C. Cotzias and Bernard G. Stall III, each formerly assistant to the institute and assistant to the hospital at the Rockefeller Institute for Medical Research, New York; Dr. Charles G. Lewallen, Cleveland, formerly at the U. S. Naval Hospital, St. Albans; Dr. Edward T. Dunham; Dr. Laurence S. Maynard, Riverhead, N. Y., previously deputy commissioner of the Suffolk County Department of Health; and Dr. Hadley L. Conn Jr., Philadelphia.

Pilot Rehabilitation Project.—The diagnostic and evaluation division of the Queens Rehabilitation Program, a pilot project for handicapped children for other communities of the nation, was dedicated on Nov. 10 at Queens General Hospital, 164th St. and Grand Central Parkway, Jamaica. The division's rehabilitation program grew out of two years' planning by representatives of 20 health, welfare, civic, and business groups working with the Association for the Aid of Crippled Children. The program will seek out all Queens children who need help, correct the handicapping condition as far as possible, help the children to develop healthy attitudes, promote a better understanding of the handicapped, provide training opportunities, and stimulate research in methods of prevention, early discovery, and proper care of handicapping conditions.

Buffalo Dedicates Capen Hall.—The University of Buffalo schools of medicine and dentistry on Dec. 11-12 will dedicate Samuel P. Capen Hall, a building recently completed at a cost of $4,500,000 and named for the chancellor emeritus of the university, who will be guest of honor. Friday morning the following symposium will be presented:

The University and the Community, J. Roscoe Miller, Northwestern University, Evanston, Ill.
The Heritage of William Osler in 1953, Stanley E. Dorst, University of Cincinnati College of Medicine.
Trends in Dental Education, Maynard K. Hine, D.D.S., Indiana University School of Dentistry, Indianapolis.
The Cornerstone: Samuel P. Capen, Mr. John M. Russell, New York, John and Mary R. Markle Foundation.

Friday afternoon Dr. Stockton Kimball, dean, University of Buffalo School of Medicine, will preside at a conference on structural and immunological basis of biological specificity, during which Dr. Ernest Witebsky, professor of bacteriology and immunology, will discuss "Immunological Aspects of Biological Specificity." Robin R. A. Coombs, Ph.D., assistant director of research, department of pathology, University of Cambridge, England, will present "Immunology and the Natural Sciences." At 9:30 a. m. Saturday, Dr. Charles H. Best, director, Banting-Best Institute, University of Toronto, Canada, will preside at the following medical conference:

Fat in Parenteral Nutrition, Fredrick J. Stare, Harvard School of Public Health, Boston.
Amino Acids in Parenteral Nutrition, Herbert Pollack, Columbia University College of Physicians and Surgeons, New York.
Parameters of Electrolyte Needs During Parenteral Nutrition, Thaddeus S. Danowski, University of Pittsburgh School of Medicine.
Metabolic Consequences of Stress in Man, Jerome W. Conn, University of Michigan Medical School, Ann Arbor.
The Diet and the Cholesterol Problem, Ancel B. Keys, Ph.D., University of Minnesota Medical School, Minneapolis.

During the dental conference, which will be held simultaneously, Dr. William F. Harrigan, New York University College of Dentistry, will consider "Diagnosis in the Field of Oral Surgery." At the general alumni luncheon in the Clark Memorial Gymnasium, 12:30 p. m., Dr. Charles Gordon Heyd, New York, past president of the American Medical Association, will discuss "The Place of a Private University in Our Society." On Sunday the hall will be open to the public from 2 to 6 p. m.

New York City

Dr. Lewis to Head Neuropsychiatric Institute.—Dr. Nolan D. C. Lewis, director of the New York State Psychiatric Institute since June, 1936, has retired from that position to devote full time to his new work as director of research in neurology and psychiatry of New Jersey hospitals and agencies. His headquarters are at the Neuropsychiatric Institute, Skillman, N. J., formerly known as the State Village for Epileptics. He will continue his work as managing editor of the *Journal of Nervous and Mental Disease*, the *Psychoanalytic Quarterly*, and the *Journal of Child Behavior*.

Courses in Accident Prevention.—The Center for Safety Education, New York University, will offer courses in industrial and traffic accident prevention during the spring term, which begins Feb. 1, 1954. Courses will include: Safety Directors and Safety Engineers—Their Qualifications, Duties, and Responsibilities; Safety Organization: Values and Limitations; Management and Supervision in Accident Prevention; Industrial Hygiene and Occupational Diseases; Accident Prevention for Operators of Smaller Motor-Vehicle Fleets: Operating the Program; Special Problems in Accident Prevention; Psychology of Accident Prevention; Accident Prevention for Small Firms; and Marine Accident Prevention. Information may be secured from the Center for Safety Education, New York University, Washington Square, New York 3.

Assembly in Anesthesiology.—The New York State Society of Anesthesiologists will hold its seventh postgraduate assembly in anesthesiology, Hotel New Yorker, Dec. 9-12. Topics for discussion include the neuromuscular junction, hospital hazards, artificial support of circulation, adrenal mechanisms pertinent to anesthesiology, physiology and pharmacology of hypotension, applied pharmacology and mechanisms of action of barbiturates, local anesthesia, and neonatal survival. "Lunch with the Experts," round-table discussions, will be held Thursday and Friday. Saturday will be devoted to a residents' program. There will be a dinner dance Thursday, and Friday Dr. Louis H. Bauer, Hempstead, Immediate Past President of the American Medical Association, will be guest speaker at dinner. He will present "Current Medical Problems Affecting the Anesthesiologists."

Leukemia Award.—The Robert Roesler de Villiers award was conferred on Dr. Ludwik Gross, Oct. 20, for his contributions to the knowledge of the nature and cause of leukemia. The award was presented at ceremonies at the New York Academy of Medicine, in which Dr. Maxwell M. Wintrobe, University of Utah School of Medicine, Salt Lake City, and Dr. William B. Castle, Harvard Medical School, Boston, spoke about leukemia research. Dr. Gross, who is chief of research at the Veterans Administration Hospital, New York, was associated with the Pasteur Institute in Paris for seven years and received the Chevillon prize of the Academy of Medicine in Paris in 1937. The Robert Roesler de Villiers Foundation was created in 1949 in memory of a youth who died of leukemia. Through periodic international contests the foundation offers awards to researchers all over the world for development toward the prevention, effective treatment, or cure of leukemia. Members of the jury, in addition to Drs. Wintrobe and Castle, are Dr. Albert Alder, University of Zurich, Switzerland, and Dr. Jan Waldenstroem, University of Lund, Malmoe, Sweden. In this, the second contest, 226 papers were submitted from 22 countries in six languages. The foundation will support, financially or otherwise, studies of theories or therapies which the jury considers of potential value. It also will assist needy leukemia patients. The foundation is not endowed and depends entirely on voluntary contributions, which are tax exempt.

Personal.—Dr. Samuel Rosen, associate otologist at the Mount Sinai Hospital, has gone to Tel Aviv at the invitation of the Israeli government to work in the new audiology center and to teach surgical treatment of Ménière's disease and otosclerosis.——Dr. Jerome L. Leon, former supervisor of Riverside Hospital's narcotics treatment division, has been named medical director and superintendent of the Sanatorium of the Jewish Consumptives' Relief Society at Spivak, Colo. He succeeds Dr. William S. Klein, who has taken a position with the Veterans Administration in Albuquerque, N. Mex.——Dr. Madison Baldwin Brown, member of the board of directors of the Hospital Council of Greater New York, has been appointed medical director of Hahnemann Hospital, Philadelphia, to succeed Dr. Raymond S. Leopold, retired. Dr. Brown has served as medical director of Roosevelt Hospital, assistant professor of hospital administration at Johns Hopkins Hospital, Baltimore, and as a staff member of Columbia University College of Physicians and Surgeons.——Dr. W. Lynwood Heaver has been appointed medical director of the National Hospital for Speech Disorders, 61 Irving Place.——Dr. Donald B. Armstrong, second vice-president of the Metropolitan Life Insurance Company, will retire as head of the health and welfare division on Dec. 31 and will be succeeded by Dr. William P. Shepard of the company's Pacific Coast head office in San Francisco, who recently was transferred to New York. Dr. Shepard has served on the A. M. A. Council on Industrial Health and as president of the American Public Health Association.

OHIO

Society News.—Dr. Hayes Martin, New York, will discuss "Diagnostic Significance of a Lump in the Neck" before the Fort Steuben Academy of Medicine, meeting in the Fort Steuben Hotel, Steubenville, Dec. 8. Physicians, interns, and graduate nurses are invited. Information may be obtained from Dr. Edward B. Weinman, secretary-treasurer, National Exchange Bank Building, Steubenville.

Cancer Laboratory to Memorialize Senator Taft.—Judge Alfred K. Nippert, formerly of the Hamilton County Court of Common Pleas, has announced a gift of $100,000 toward the creation of a cancer research laboratory in memory of the late Sen. Robert A. Taft as part of the Christ Hospital Institute of Medical Research, Cincinnati. Judge Nippert, chairman of the board of Christ Hospital, last year gave $400,000 toward erection of the new medical research building at this hospital.

PENNSYLVANIA

Society News.—On Dec. 15 the Allegheny County Medical Society, 225 Jenkins Bldg., Pittsburgh, will hold a joint meeting with the Western Pennsylvania Heart Association. Dr. Wright R. Adams, professor of medicine, University of Chicago School of Medicine, will discuss "Pulmonary Hypertension."

Appoint Director of Child Guidance Center.—Dr. William F. Finzer, director of the Guidance Institute of Berks County at Reading for the past five years, has been named director of the Pittsburgh Child Guidance Center at the University of Pittsburgh Medical Center. He will also be an assistant professor of psychiatry in child development at the University of Pittsburgh School of Medicine. Dr. Finzer practiced psychiatry at the Menninger Clinic, Topeka, Kan., 1944-1945 and then for two years was with the U. S. Army, serving as chief of neuropsychiatric service for the Neuropsychiatric Center in Tokyo.

Philadelphia

Dr. Gruber Goes to California.—Dr. Charles M. Gruber, professor of pharmacology, Jefferson Medical College of Philadelphia since 1932, has been named head of the department of pharmacology at the College of Medical Evangelists, Loma Linda, Calif. Dr. Gruber is a past president of the American Society for Experimental Biology and Medicine.

TEXAS

Medical Students' Day in Galveston and Houston.—The Texas Medical Association and the local medical societies will sponsor in Houston and Galveston identical programs, designed to acquaint medical students with the practical aspects of future medical practice. In Houston, the meeting will begin at 4 p. m. on Dec. 11 in the Baylor University College of Medicine auditorium with greetings by Dr. John K. Glen, Houston, president of the Harris County Medical Society. In Galveston, the University of Texas Medical Branch will begin its program at 9:30 a. m. on Dec. 12 in the school auditorium, with greetings by Dr. Jesse B. Johnson Sr., president of the Galveston County Medical Society. On each program will be an address to senior students by Dr. George Turner, El Paso, president of the Texas Medical Association, whose subject will be "Your Responsibility as Doctors." The speakers' panel includes: "Your Practice and Public Opinion" by Dr. Troy A. Shafer, Harlingen, chairman, committee on public relations, Texas Medical Association; "You and the Medical Society" by Dr. Francis J. L. Blasingame, Wharton, member of the A. M. A. Board of Trustees; "The Legal Aspects of Your Practice" by Philip R. Overton, Austin, general counsel of the Texas Medical Association; and "The Business Side of Your Practice" by Dr. Harvey Renger, Hallettsville, chairman, council on medical economics, Texas Medical Association.

WISCONSIN

State Medical Election.—At the recent annual meeting in Milwaukee, the State Medical Society of Wisconsin chose the following new officers: president, Dr. H. Kent Tenney, Madison; president-elect, Dr. Arthur J. McCarey, Green Bay; speaker of the House of Delegates, Dr. Lien O. Simenstad, Osceola; and alternate delegate to the A. M. A., Dr. George E. Forkin, Manasha.

New Paging System.—A new system for public paging of its members has been activated by the Medical Society of Milwaukee County. Each member has been assigned a numbered card, the number to be used by members of his family, his hospital, the Medical Society Physicians' Service, or his office when it is necessary to reach him while he is in a public place or at a public gathering.

Sparta Honors Dr. Beebe.—Residents of Sparta and the surrounding area recently gathered at the courthouse square to pay tribute to Dr. Spencer D. Beebe, who in 1954 will complete 50 years of service to the community. "Dr. Beebe Night" was sponsored by the Sparta Kiwanis Club. Dr. Beebe, a life member and past officer of the Wisconsin State Medical Society, was honored by the society as the Wisconsin country practitioner of 1950.

PUERTO RICO

Annual Meeting in Santurce.—The Puerto Rico Medical Association will hold its annual assembly in the association headquarters, Santurce, Dec. 9-13, under the presidency of Dr. Luis A. Sanjurjo, Santurce. Dr. Charles C. Higgins, Cleveland, will participate Thursday in a symposium on the management of urinary lithiasis. On Saturday there will be a symposium on current research in the basic medical sciences of the School of Medicine. Dr. Rudolph H. Kampmeier, Nashville, who with Dr. Felix M. Reyes, Santurce, will conduct a clinical pathological conference at the Hospital San Patricio on Friday, will discuss "The Variability of Diffuse Arteritis (Collagen Diseases)" on Saturday. Other guests of honor and their first presentations include:

Leo H. Bartemeier, Detroit, Utilization of Psychiatric Principles in the Practice of Medicine.
Vicente Pardo-Castello, Havana, Cuba, Early Diagnosis of Leprosy.
Frederick F. Yonkman, Summit, N. J., Certain Phases of the Modern Medical Treatment of Hypertension.
Joseph C. Yaskin, Philadelphia, Evaluation of Headache from the Standpoint of Diagnosis and Treatment.
George T. Pack, New York, Problems of Pigmented Moles and Malignant Melanoma.
Angel Jorge Echeverri, Santiago de Compostela, Spain, Anatomical Clinic Studies on Dysmorphogenesis of Sacrolumbar Region.

GENERAL

Association of Medical Colleges.—At the recent annual meeting in Atlantic City, the Association of American Medical Colleges broadened its membership base to include individuals and organizations with an interest in medical education. Institutional membership had been limited to accredited medical schools. Membership is now open to medical school faculty members and others professionally linked to medical schools for an annual fee of $10; sustaining membership, at $1,000 a year, may be held by interested organizations. The 65th annual meeting, scheduled for Oct. 17-20, 1954, French

Lick Springs Hotel, French Lick, Ind., will be preceded by the association's Teaching Institute on Pathology, Bacteriology, Immunology and Genetics, Oct. 10-15, and by a meeting of medical school cancer coordinators Oct. 15-16 (*J. A. M. A.* Nov. 14, 1953, p. 1023).

Meeting on Nervous and Mental Disease.—The Association for Research in Nervous and Mental Disease will hold its annual meeting at the Hotel Roosevelt, New York, Dec. 11-12. The chief topics for discussion are "Genetics, Human Inheritance and Environmental Effects" and "Neurological and Mental Patterns and Their Inheritance." Participants in the program include Drs. Albert B. Sabin and Josef Warkany, Cincinnati; Arnold L. Gesell and Milton J. E. Senn, New Haven, Conn.; Tryphena Humphrey, Pittsburgh; C. Nash Herndon, Winston-Salem, N. C.; George A. Jervis, Thiells, N. Y.; F. H. Tyler, Salt Lake City; John W. Schut, Anoka, Minn.; William G. Lennox, Boston; Donald H. Jolly, Wrentham, Mass.; Harold G. Wolff, Bernard D. Davis, and Franz J. Kallmann, New York; Leo Kanner, Baltimore; Robert E. Yoss, and James V. Neel, Ann Arbor, Mich.

Borden Award in Nutrition.—Nominations are solicited for the 1953 award of $1,000 and a gold medal made available by the Borden Company Foundation. The American Institute of Nutrition will make this award in recognition of distinctive research by investigators in the United States and Canada that has emphasized the nutritive significance of the components of milk or of dairy products. The award may be divided between two or more investigators, but employees of the Borden Company are not eligible for the award. Formal presentations will be made at the annual meeting of the institute in the spring of 1954. Nominations, which must be in the hands of the chairman of the nominating committee, J. B. Brown, Ph.D., Institute of Nutrition and Food Technology, Ohio State University, Columbus 10, Ohio, by Jan. 1, 1954, should be accompanied by such data relative to the nominee and his research as will facilitate consideration for the award.

Damon Runyon Cancer Grants.—The Damon Runyon Memorial Fund for Cancer Research allocated $76,500 for the month of October for seven institutional grants and two fellowships to train cancer research investigators. The grants included: $10,000 for a project entitled "The Relationship of Hormones in Neoplasia," to be conducted by Dr. Albert Segaloff at Tulane University of Louisiana Medical School, New Orleans; $20,000 to the Institute for Cancer Research, Inc., Philadelphia, for a projected research study under Dr. Stanley P. Reimann, entitled "Physicochemical Study of Cancer Patients"; and $10,000 to Dr. Harold S. Diehl, dean of medical sciences at the University of Minnesota Medical School, Minneapolis, who heads an investigation on endocrine aspects of malignant growth. To date of report, $7,323,286 had been allocated by the fund in 395 grants and 258 fellowships, in 170 institutions in 47 states, the District of Columbia, and 14 foreign countries.

Booklet for Multiple Sclerosis Patients.—An illustrated booklet "Mental Health and MS," published by the National Multiple Sclerosis Society, 270 Park Ave., New York 17, is available to multiple sclerosis patients, according to an announcement by Dr. Harold R. Wainerdi, New York, medical director of the society. The booklet is the result of a grant made in 1949 by the society to the New York University-Bellevue Medical Center to support a study on the psychological factors in multiple sclerosis, under the direction of Molly Harrower, Ph.D., who is now consultant in psychology, U. S. Army, and research director, Court Intake Project, New York City, Court of Domestic Relations. The booklet contains two vocational interest tests designed to give patients an understanding of their interests and vocational potentialities. The importance of hobbies and creative interests is stressed. The booklet will be distributed without charge to multiple sclerosis patients on request directed to the National Multiple Sclerosis Society or any affiliated chapter of the society. A second mental health booklet by the same author, for use of physicians who treat multiple sclerosis patients, will be published shortly.

Radiologists Meet in Chicago.—The Radiological Society o
North America will hold its annual meeting, Dec. 13-18, a
the Palmer House, Chicago. Fifty-seven papers are schedule
for presentation, and seven will be read by title. Ninety-two
speakers by invitation are listed. A symposium on isotope
studies is scheduled for Monday morning. Monday afternoo
a chest survey will include "The Value of Chest Surveys fro
the Standpoint of the Internist," "The Radiologist and Ches
Surveys," "The Administrator Looks at Chest Surveys," "Ches
Surveys as Used by the Chest Physician," and "What th
Public Thinks of Chest Surveys." The radiobiology sessio
will be held Tuesday morning, the radiological physics sessio
Wednesday morning, and the radiobiology and physics sessio
Friday morning. Thursday morning there will be a panel di
cussion on low back pain and a symposium on radiation uni
and Thursday afternoon, a symposium on rotation therap
The annual banquet will be held Thursday, 7 p. m. Th
Carman lecture, "Observations in Atomic Medicine," by D
Roger Allen Harvey, acting dean, University of Illinois Colle
of Medicine, Chicago, will be delivered Tuesday at 8:30 p.
The society has scheduled 47 refresher courses.

International Cancer Congress.—Physicians are invited to pr
sent papers at the sixth International Cancer Congress, to
held in São Paulo, Brazil, July 23-29, 1954, under the sponso
ship of the International Union Against Cancer. The progra
will include sections on fundamental cancer research, clinic
studies on cancer, and cancer control. Registration blanks a
available from the Chairman, National Committee on Int
national Union Against Cancer, National Research Counc
2101 Constitution Ave. N.W., Washington 25, D. C. Fi
copies of an abstract of each paper proposed for presentati
must be sent to the chairman by Jan. 15, 1954. Abstracts a
not to exceed 250 words and must be accompanied by a ti
and the name, address, academic or professional title, a
institutional affiliation of the investigator or physician. Th
requirements do not apply to persons who have been invit
to participate by the president of the congress unless appli
tion is made for travel allotments as described below. It
expected that round-trip transportation by air from Miami
São Paulo will be available for about $480. Detailed inform
tion regarding travel arrangements and hotel reservations m
be obtained from Dr. Brewster S. Miller, American Can
Society, Inc., 47 Beaver St., New York 4. Travel allotme
of approximately $600 each will be available to a limit
number of individuals requiring such assistance. Applicatio
for travel allotments must be submitted in quintuplet to
chairman by Jan. 15. They should be in letter form, givi
information concerning age, training, publications in cancer
related fields, and academic or professional status. Applica
not planning to present papers should include five copies
abstracts, as described above, of major current investigati
work. A letter from the laboratory director, or appropri
administrative officer, approving the application is a
necessary.

Society News.—At the annual meeting of the **National Gas
enterological Association** in Los Angeles Dr. Sigurd W. Joh
sen, Passaic, N. J., assumed the presidency; Dr. Lynn
Ferguson, Grand Rapids, Mich., was named president-ele
and Drs. James T. Nix, New Orleans, Arthur A. Kirch
Los Angeles, C. Wilmer Wirts, Philadelphia, and Frank
Borrelli, New York, were chosen as vice-presidents. Reelect
were Dr. A. Xerxes Rossien, Kew Gardens, N. Y., secreta
Dr. Roy Upham, New York, secretary-general, and Dr. Eli
Katz, New York, treasurer. Dr. Samuel Weiss, New York, w
renamed as editor-in-chief of *The Review of Gastroenterolo*
The 19th annual convention of the association will be held
Washington, D. C., in October, 1954.——At the annual me
ing in Chicago the **College of American Pathologists** elect
the following new governors: Drs. Cyrus C. Erickso
Memphis; John J. Clemmer, Albany, N. Y.; Donald A. Nicke
son, Salem, Mass.; James W. Kernohan, Rochester, Min
and Allen R. Moritz, Cleveland.——At the annual meeti
in Nashville the **National Medical Association** installed D
A. Porter Davis, Kansas City, Kan., as president and nam
Dr. Matthew Walker, Nashville, president-elect; Drs. John
Thornton, Little Rock, Ark., Evan A. Gilkes, Baltimore, a

George B. Lennox, Omaha, vice-presidents, and Dr. Eugene T. Taylor, St. Louis, treasurer.——At the annual business session in Chicago the **American Association of Blood Banks** elected the following officers: president, Dr. Aaron Kellner, New York; vice-president, Dr. John R. Upton, San Francisco; president-elect, Dr. Merlin L. Trumbull, Memphis, Tenn. Named as district directors were Dr. Peter Vogel, New York, Dr. Coye C. Mason, Chicago, Dr. John H. Carlquist, Salt Lake City, and Dr. William C. Levin, Galveston, Texas. Re-elected for treasurer and secretary respectively were Mrs. Bernice Hemphill, San Francisco, and Miss Marjorie Saunders, Dallas, Texas. The 1954 meeting is scheduled for Sept. 13-15 at the Shoreham Hotel, Washington, D. C.——The **North Pacific Surgical Association** held its 40th annual meeting Nov. 20-21 in Victoria, B. C., under the presidency of Dr. Thomas M. Jones of Victoria, B. C. Presentations included "Use of Radioactive Isotopes in Surgery," "Present Status of Vascular Grafts," "Further Studies on the Billroth I Operation for Peptic Ulcer," and "Importance of a Short Afferent Loop in Gastrectomy for Peptic Ulcer: a Study of the Protective Mechanisms Involved."——At the annual meeting in Kansas City, Mo., the **Mid-Continent Psychiatric Association** elected the following officers: president, Dr. Clarence J. Kurth, Wichita, Kan.; vice-president and president-elect, Dr. Paul S. Hines, Kansas City, Mo.; secretary-treasurer, Dr. Frank F. Merker, Topeka, Kan.; councilors, Drs. Robert G. Carnahan, Little Rock, Ark., William Rottersman, Topeka, Kan., G. Wilse Robinson Jr., Kansas City, Mo., and Harold G. Sleeper, Oklahoma City.——At the annual meeting in Minneapolis the **Mississippi Valley Trudeau Society** elected the following officers: president, Dr. Ralph I. Canuteson, Lawrence, Kan.; president-elect, Dr. Ejvind P. Fenger, Minneapolis; vice-president, Dr. Leon J. Galinsky, Des Moines, Iowa; and secretary-treasurer, Dr. Jesse A. Stocker, Springfield, Ill. William H. Feldman, D.V.M., Rochester, Minn., was awarded the Dearholt medal for outstanding work done in the development of streptomycin as a chemotherapeutic agent in the treatment of tuberculosis.——At the annual meeting in Chicago the **American Society for the Study of Arteriosclerosis** elected the following officers: president, Dr. Russell L. Holman, New Orleans; vice-president, Dr. Louis N. Katz, Chicago; and secretary-treasurer, Dr. O. J. Pollak, Dover, Del.——At a recent meeting of the **Baltimore-Washington Dermatological Society** the following officers were elected for a term of one year: chairman, Dr. Israel Zeligman, Baltimore; vice-chairman, Dr. Jack L. Derzavis, Washington, D. C.; and secretary-treasurer, Dr. Raymond C. V. Robinson, Baltimore.——The **New England Society of Anesthesiologists** met on Dec. 4 at the submarine base, New London, Conn., for the following program:

Decompression Sickness, Commander Gerald J. Duffner, Washington, D. C.
Explanatory Talk with Slides on Submarine Escape Training.
Demonstration of Submarine Escape Training Tank.
Underwater Respiratory Apparatus, Lieut. P. P. Newman.
Oxygen Poisoning, Commander Jack L. Kinsey.
Carbon Dioxide Toxicity and Oxygen Requirements, Karl E. Schaeffer.

LATIN AMERICA

Medical Meeting of French-Speaking Countries.—The third Medical Congress of French-Speaking Countries in the Caribbean will meet jointly with the Haitian Chapter of the International College of Surgeons, Dec. 15-21, at Port-au-Prince, Haiti. For information write Dr. Constant Pierre-Louis, School of Medicine, Port-au-Prince, Haiti.

FOREIGN

Prize for Medicosurgical Films.—The annual prize for medicosurgical cinema of 100,000 francs (about $290) and other awards will be given during the last session of the course on "Actualités médico-chirurgicales" at the Faculté de Médecine de Paris in March, 1954. The prizes are offered only for amateurs' films, unpublished, not subsidized, and not produced by any laboratory or firm. Films may be silent or sound, in black and white, or in color but must be 16 mm. Films must reach La Presse Médicale, 120, Boulevard Saint-Germain, Paris VIe, before March 8, 1954.

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

1954 Annual Meeting, San Francisco, June 21-25.

1954 Clinical Meeting, Miami, Florida, Nov. 30-Dec. 3.

1955 Annual Meeting, Atlantic City, N. J., June 6-10.

1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

American Academy of Dermatology and Syphilology, Palmer House, Chicago, Dec. 5-10. Dr. John E. Rauschkolb, P. O. Box 6565, Cleveland 1, Secretary.

American Academy of Obstetrics and Gynecology, Netherland Plaza Hotel, Cincinnati, Dec. 14-16. Dr. C. Paul Hodgkinson, 116 South Michigan Blvd., Chicago 3, Secretary.

American Federation for Clinical Research:

- Eastern Section, Amphitheater, Children's Medical Center, Boston, Jan. 4. Dr. Walter Judson, Evans Memorial Hospital, Boston, Chairman.
- Southern Section, Jung Hotel, New Orleans, Jan. 29. Dr. William Parson, University of Virginia School of Medicine, Charlottesville, Va., Chairman.
- Western Section, Auditorium, University of Oregon Medical School, Portland, Ore., Jan. 28. Dr. I. S. Edelman, University of California Medical Center, San Francisco Hospital, San Francisco 15, Secretary.

American Laryngological, Rhinological and Otological Society:

- Eastern Section, Waldorf-Astoria, New York, Jan. 8. Dr. Francis W. Davison, Danville, Pa., Chairman.
- Middle Section, Park Plaza Hotel, St. Louis, Jan. 18. Dr. Ralph J. McQuiston, 20 North Meridian St., Indianapolis 4, Chairman.
- Southern Section, Brown Hotel, Louisville, Ky., Jan. 16. Dr. Lester A. Brown, 490 Peachtree St., N.E., Atlanta 3, Ga., Chairman.

American Society for Surgery of the Hand, Palmer House, Chicago, Jan. 22. Dr. George V. Webster, 960 East Green St., Pasadena 1, Calif., Secretary.

Association for Research in Nervous and Mental Diseases, Hotel Roosevelt, New York, Dec. 11-12. Dr. Clarence C. Hare, 710 West 168th St., New York 32, Secretary.

Northwest Society for Clinical Research, Portland, Ore., Jan. 28. Dr. Arthur L. Rogers, 1216 S.W. Yamhill St., Portland, Ore., Secretary.

Radiological Society of North America, Palmer House, Chicago, Dec. 13-18. Dr. Donald S. Childs, 713 East Genesee St., Syracuse 2, N. Y., Secretary.

Regional Meetings, American College of Physicians:

- Eastern Pennsylvania, Philadelphia, Jan. 15. Dr. Thomas M. McMillan, 330 S. Ninth St., Philadelphia 7, Governor.

Southern Surgical Association, The Homestead, Hot Springs, Va., Dec. 8-10. Dr. John C. Burch, 2112 West End Ave., Nashville 5, Tenn., Secretary.

Western Society for Clinical Research, Portland, Ore., Jan. 29-30. Dr. Herbert N. Hultgren, Stanford Hospital, San Francisco 15, Secretary.

FOREIGN

Association of Surgeons of Great Britain and Ireland, Leeds, England, May 13-15, 1954. Dr. Henry W. S. Wright, 45 Lincoln's Inn Fields, London W.C.2, England, Honorary Secretary.

British Medical Association, Glasgow, Scotland, July 1-9, 1954. Dr. A. Macrae, B.M.A. House, Tavistock Square, London, W.C.1, England, Secretary.

Canadian Medical Association, Vancouver, B. C., Canada, June 18-22, 1954. Dr. T. C. Routley, 135 St. Clair Ave. W., Toronto 5, Ont., Canada, General Secretary.

Conference of International Union Against Tuberculosis, Madrid, Spain, Sept. 26-Oct. 2, 1954. Secretariat, Escuela de Tisiologia, Ciudad Universitaria, Madrid, Spain.

Congress of International Association for the Prevention of Blindness, New York, N. Y., U. S. A., Sept. 12-17, 1954. Professor Franceschetti, 2 Avenue Mirmot, Geneva, Switzerland, Secretary-General.

Congress of International Society of Surgery, Paris, France, May 21-22, 1954. Dr. L. Dejardin, 141, rue Belliard, Brussels, Belgium, General Secretary.

French Medical Congress of French Speaking Countries in the Caribbean, Port-au-Prince, Haiti, Dec. 15-21. For information write: Dr. Constant Pierre-Louis, School of Medicine, Port-au-Prince, Haiti.

Health Congress of the Royal Sanitary Institute, Scarborough, England, April 27-30. Mr. P. Arthur Wells, Royal Sanitary Institute, 90 Buckingham Palace Road, London, S.W.1, England, Secretary.

International Cancer Congress, Sao Paulo, Brazil, July 23-29, 1954. Prof. A. Prudente, 171 rua Benjamin Constante, Sao Paulo, Brazil, President.

International Conference on Thrombosis and Embolism, Basle, Switzerland, July 15-19, 1954. Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, Switzerland, Hon. Secretary.

International Congress on Child Psychiatry, University of Toronto, Toronto, Ontario, Canada, Aug. 13-14, 1954. Miss Helen Speyer, International Association for Child Psychiatry, 1790 Broadway, New York 19, New York, U. S. A., Executive Officer.

International Congress of Clinical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Dr. Robert A Moore, Washington University School of Medicine, St. Louis 10, Missouri, U. S. A., Chairman, Committee on Arrangements.

International Congress on Diseases of the Chest, Barcelona, Spain, Oct. 4-8, 1954 Mr. Murray Kornfeld, 112 East Chestnut St., Chicago 11, Illinois, Executive Secretary.

International Congress on Group Psychotherapy, Toronto, Ont., Canada, Aug. 12-14, 1954. Dr. J. L. Moreno, Room 327, 101 Park Ave., New York 17, N. Y., U. S. A., Director of Organizing Committee.

International Congress of Hematology, Paris, Sept. 6-11, 1954. Dr. Jean Bernard, 86 rue d'Assas, Paris 6^e, France, Secretary.

International Congress of the History of Medicine, Rome and Salerno, Italy, Sept. 13-20, 1954. For information write: Segreteria XIV Congresso Internazionale di Storia della Medicina, Instituto di Storia della Medicine, Citta Universitaria, Rome, Italy.

International Congress of Hydroclimatism and Thalassotherapy, Dubrovnik, Yugoslavia, May 8-16, 1954. Prof. C. Plavsic, Zeleni venac 1, Belgrade, Yugoslavia, Secretary General.

International Congress of Industrial Medicine, Naples, Italy, Sept. 13-19, 1954. Professor Scipione Caccuri, Director, Institute of Industrial Medicine Policlinico, Naples, Italy, Chairman, Organizing Committee.

International Congress of Internal Medicine, Stockholm, Sweden, Sept. 15-18, 1954. Professor Anders Kristenson, Karolinska Sjukhuset, Stockholm 60, Sweden, Secretary-General.

International Congress of International College of Surgeons, Sao Paulo, Brazil, April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake Shore Drive, Chicago. Illinois, U. S. A., Secretary-General.

International Congress on Mental Health, University of Toronto, Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write: Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

International Congress of Nutrition, Amsterdam, Netherlands, Sept. 14-18, 1954. For information write: Dr. M. van Eekelen, Centraal Instituut voor Voedingsonderzoek T.N.O., 61 Catharynesingel, Utrecht, Netherlands.

International Congress on Obstetrics and Gynecology, Geneva, Switzerland, July 26-31, 1954. Dr H. de Watteville, Maternité Hôpital Cantonal, Geneva, Switzerland, President.

International Congress of Ophthalmology, University of Montreal and McGill University, Montreal, Canada, Sept. 10-11, 1954, and Waldorf-Astoria, New York, N. Y., U. S. A., Sept. 12-17, 1954. Dr. William L. Benedict, 100 First Avenue Building, Rochester, Minnesota, U. S. A., Secretary-General.

International Congress of Orthopedic Surgery and Traumatology, Berne, Switzerland, Aug. 30-Sept. 3, 1954. For information write: Professor M. Dubois, Isle-Hospital, Berne, Switzerland.

International Congress of Psychology, Montreal, Canada, June 7-12, 1954. For information write: Prof. H. S. Langfeld, International Union of Scientific Psychology, Eno Hall, Princeton University, Princeton, N. J., U. S. A.

International Congress for Psychotherapy, Zurich, Switzerland, July 21-24, 1954. Dr. H. K. Fierz, Theaterstrasse 12, Zurich 1, Switzerland, Secretary General.

International Gerontological Congress, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

International Poliomyelitis Congress, Rome, Italy, Sept. 6-10, 1954. Mr. Stanley E. Henwood, 120 Broadway, New York 5, N. Y., U. S. A., Executive Secretary.

International Society of Blood Transfusion, Paris, France, Sept. 12-19, 1954. For information write: Colonel Julliard, Societe Internationale de Transfusion Sanguine, 53 Boulevard Diderot, Paris 12^e, France.

International Society for Cell Biology, Leiden, Netherlands, Sept. 2-9, 1954. Professor Peter J. Gaillard, University of Leiden, Leiden, Netherlands, Secretary.

International Society of Geographical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Professor Fred C. Roulet, Hebelstrasse 24, Basle, Switzerland, Secretary-General.

Journees Medicales, Paris, France, April 21-25, 1954. For information write: Secretariat of the Journees, 12, rue Pierre-Geofroix, Colombes (Seine) France.

Latin American Congress of Otorhinolaryngology, Caracas, Venezuela, Feb. 21-25, 1954. Dr. Victorino Marquez Reveron, Centro, Medico, Caracas, Venezuela, Secretary-General.

Latin American Congress of Physical Medicine, Medellin, Columbia, South America, Feb. 15-20, 1954. Dr. Cassius Lopez de Victoria, 176 East 71st St., New York 21, N. Y., U. S. A., Executive Director.

Pan American Congress of Otorhinolaryngology and Bronchoesophagology, Mexico, D.F., Mexico, Feb. 28-March 4, 1954. Dr. Pedro Hernandez Gonzalo, 8 No. 358, Vedado, Havana, Cuba, General Secretary.

Pan American Medical Association, International Medical Cruise Congress, S. S. Nieuw Amsterdam, Jan. 6-22, 1954. Dr. Joseph J. Eller, 745 Fifth Avenue, New York 22, N. Y., U. S. A., Executive Director.

Pan-Pacific Surgical Congress, Honolulu, Hawaii, Oct. 7-18, 1954. Dr. F. J. Pinkerton, Suite 7, Young Bldg., Honolulu 13, Hawaii, Director General.

Persian Gulf Medical Society, Dhahran, Saudi Arabia, Dec. 7-8. Dr. N. J. Conan Jr., Department of Internal Medicine, Arabian American Oil Company, Dhahran, Saudi Arabia, Secretary.

Sectional Meeting, American College of Surgeons, London, England, May 17-19, 1954. Dr. Michael L. Mason, 40 East Erie St., Chicago 11, Ill., U. S. A., Secretary.

South American Congress of Angiology, Sao Paulo, Brazil, July 1954. For information write: Dr. Rubens Carlos Mayall, Rua Senador Vergueiro 73, Rio de Janeiro, Brazil, S. A.

World Congress of Cardiology, Washington, D. C., and Bethesda, Md., U. S. A., Sept. 12-17, 1954. Dr. L. W. Gorham, 44 East 23d St., New York 10, N. Y., U. S. A., Secretary-General.

World Congress of International Society for the Welfare of Cripples, The Hague, Netherlands, Sept. 13-17, 1954. For information write: D. C. Schaap, Centrale Vereniging, Apeldoorschweg 51, Arnhem, Netherlands.

World Federation of Occupational Therapists, Edinburgh, Scotland, August 17, 1954.

World Medical Association, Rome, Italy, Sept. 26-Oct. 2, 1954. Dr Louis H. Bauer, 345 East 46th St., New York 17, N. Y., U. S. A., Secretary-General.

EXAMINATIONS AND LICENSURE

EXAMINING BOARDS IN SPECIALTIES

American Board of Anesthesiology: *Written.* Various Centers, July 16. Sec., Dr. Curtiss B. Hickox, 80 Seymour St., Hartford 15.

American Board of Neurological Surgery: *Oral.* Chicago, May or June. Final date for filing application is Jan. 15. Sec., Dr. Leonard T. Furlow, 600 S. Kingshighway, St. Louis 10.

American Board of Neurology and Psychiatry: *Psychiatry and Neurology.* Dec. 14-15. Applications no longer being accepted. Chicago, April 29-30. Final date for filing application is Feb. 1. Sec., Dr. David A. Boyd, Jr., 102-110 Second Ave., S.W., Rochester, Minn.

American Board of Obstetrics and Gynecology: Written examination and review of case histories for all candidates will be held in various cities of the United States, Canada, and military centers outside the continental United States on Feb. 5. Case abstracts are to be sent by the candidate to the Secretary as soon as possible after receiving notification of eligibility to the Part I written examination. *Oral.* Chicago, Oct. 1. Application for reexamination in Part II must be made prior to Feb. 1 of any year. Sec., Dr. Robert L. Faulkner, 2105 Adelbert Road, Cleveland 6.

American Board of Ophthalmology: *Written.* Various Centers, January 25-26, 1954. Final date for filing applications was July 1. *Practical.* San Francisco, June 25-29; New Orleans, Feb. 5-11, 1955. Final date for filing application for 1955 written examination is July 1. Sec., Dr. Edwin B. Dunphy, 56 Ivie Road, Cape Cottage, Maine.

American Board of Orthopaedic Surgery: *Part II.* Chicago, Jan. 20-22. Final date for filing application was August 15. Final date for filing application for Part I is Nov. 30. Sec., Dr. Harold A. Sofield, 122 S. Michigan Ave., Chicago 3.

American Board of Obstetrics: *Written.* Selected Places, Jan. 15. This is the only written examination which will be given during 1954. *Oral.* Washington, D. C., Feb. 19-21; Des Moines, March 19-21; New York City, May 1-3; San Francisco, June 25-27; Chicago, Oct. 8-10 and New Haven, December.

American Board of Radiology: *Oral. Radiology, Roentgenology, Diagnostic Roentgenology and Therapeutic Radiology.* Chicago, Dec. 6-11. Final date for filing application was July 1. Sec., Dr. B. R. Kirklin, 102-110 Second Ave. S.W., Rochester, Minn.

American Board of Urology: *Oral-clinical and pathology.* Chicago, Feb. 17-20. Sec., Dr. Harry Culver, 30 Westwood Road, Minneapolis 16.

DEATHS

Davison, Thomas Callahan ⊕ Atlanta, Ga.; born in Woodville, Ga., Nov. 13, 1883; Atlanta College of Physicians and Surgeons, 1906; an Associate Fellow of the American Medical Association; an honorary member of the International College of Surgeons; member of the Southern Surgical Association, Southeastern Surgical Congress of which he was past president, and the American Association for Thoracic Surgery; past president of the American Goiter Association and Medical Alumni of Emory University; fellow of the American College of Surgeons; member of the founders group of the American Board of Surgery; specialist certified by the American Board of Thoracic Surgery; formerly associate professor of clinical surgery at Emory University School of Medicine; served during World War I; for many years chief of surgical service at Grady Hospital; affiliated with Georgia Baptist Hospital; died Sept. 17, aged 69, of congestive heart failure.

Danzis, Maximillian ⊕ Newark, N. J.; born in 1874; University and Bellevue Hospital Medical College, New York, 1899; a trustee and past president of the Academy of Medicine of Northern New Jersey; past president of the Essex County Medical Society and the New Jersey Society of Surgeons; specialist certified by the American Board of Surgery; fellow of the American College of Surgeons; co-founder and visiting surgeon, Newark Beth Israel Hospital; consulting surgeon, Presbyterian Hospital in Newark, Essex County Hospital for Contagious Diseases in Belleville, Essex County Sanatorium in Verona, and the Irvington General Hospital; served as a trustee of the old Newark University and of the American Hebrew University of New York; in 1941 received the Edward J. Ill award for "extraordinary service as a physician and citizen"; died Oct. 20, aged 79, of acute coronary thrombosis.

Reed, Horace ⊕ Oklahoma City; born Sept. 26, 1876; University of Missouri School of Medicine, Columbia, 1901; member of the House of Delegates of the American Medical Association from 1929 to 1937; past president of the Oklahoma City Academy of Medicine and the Oklahoma County Medical Society; fellow of the American College of Surgeons; member of the founders group of the American Board of Surgery; at one time professor of clinical surgery at the University of Oklahoma School of Medicine; captain in the U. S. Army during World War I, and chairman of the medical examiners board for Oklahoma County during World War II; affiliated with St. Anthony and University hospitals; died Oct. 7, aged 77, of uremia and hypertrophy of the prostate.

Londrigan, Joseph Francis ⊕ Hoboken, N. J.; born in Hoboken, N. J., in 1884; University of Pennsylvania School of Medicine, Philadelphia, 1910; member of the House of Delegates of the American Medical Association from 1948 to 1953; fellow of the American College of Surgeons; past president and vice-president of the Medical Society of New Jersey; consulting surgeon, Holy Name Hospital, Teaneck, Bayonne (N. J.) Hospital, North Hudson Hospital, Union City, and Jersey City Medical Center; for many years affiliated with St. Mary's Hospital, where he died Oct. 17, aged 69, of cirrhosis of the liver, arteriosclerotic heart disease, and benign prostatic hypertrophy.

Chamberlin, Donald Tillinghast ⊕ Knoxville, Tenn.; Washington University School of Medicine, St. Louis, 1930; certified by the National Board of Medical Examiners; specialist certified by the American Board of Internal Medicine; member of the American Gastro-Enterological Association; fellow of the American College of Physicians; served during World War II; formerly practiced in Boston, where he was on the staff of the New England Deaconess Hospital, Boston City Hospital, and the New England Baptist Hospital, where he died Oct. 1, aged 48, of portal cirrhosis, thrombosis of the portal vein, and esophageal varices with rupture.

Catlett, Marshall Burr ⊕ Fort Wayne, Ind.; born in North Manchester, May 11, 1888; Indiana University School of Medicine, Indianapolis, 1913; past president of the Fort Wayne Medical Society; until recently vice-president, in 1952 president, and for 16 years a member of the city board of health; formerly councilor of the Twelfth District of the Indiana State Medical Association; during World War I medical officer of the Sixth Cameron Highlanders, an infantry division, and attained the rank of captain; at one time county health officer; member of the city planning commission; died in the Methodist Hospital Oct. 7, aged 65.

Canavan, Myrtelle Moore ⊕ Boston; born in St. Johns, Mich., in 1879; Woman's Medical College of Pennsylvania, Philadelphia, 1905; specialist certified by the American Board of Pathology; member of the New England Society of Psychiatry, International Association of Medical Museums, and the College of American Pathologists; fellow of the American College of Physicians; secretary-treasurer of the Massachusetts Medico-Legal Society; formerly curator of the Warren Anatomical Museum, Harvard Medical School, and assistant pathologist at Boston State Hospital; died Aug. 26, aged 74, of paralysis agitans.

Aguglia, Vincent B., Boston; Middlesex College of Medicine and Surgery, Cambridge, Mass., 1923; died in Watertown, Mass., Oct. 8, aged 55.

Alexander, George, Pontiac, Mich.; Detroit College of Medicine, 1894; died Oct. 2, aged 90, of cerebral hemorrhage.

Anderson, Axel Hjalmar, Detroit; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1907; also a graduate in pharmacy; died Oct. 18, aged 71, of cancer of the larynx and Paget's disease.

Blair, Harold Albert ⊕ Curwensville, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1906; on the courtesy staff of Clearfield Memorial Hospital, where he died Aug. 22, aged 74, of coronary heart disease.

Bowmer, Otho Cassius ⊕ Corsicana, Texas; Barnes Medical College, St. Louis, 1900; served as health officer of Navarro County; an officer in the U. S. Army during the Spanish-American War and World War I; for many years on the board of the Physicians and Surgeons Hospital; died Sept. 28, aged 79, of coronary thrombosis.

Bremer, Benjamin Franklin ⊕ Glenmora, La.; Medical Department of Tulane University of Louisiana, New Orleans, 1903; for many years town health officer; served on the staff of the Baptist Hospital in Alexandria; died Sept. 26, aged 75, of coronary occlusion.

Brock, Henry Herbert ⊕ Alfred, Maine; Medical School of Maine, Portland, 1890; fellow of the American College of Surgeons; formerly on the faculty of his alma mater; until recently consulting surgeon to the Maine General Hospital, Portland, Webber Hospital, Biddeford, and Goodall Hospital, Sanford; died Oct. 4, aged 89, of arteriosclerosis.

Brooks, Edward Benjamin, Oklahoma City, Okla.; Louisville National Medical College, Medical Department State University, 1908; assistant city physician; died in the Mercy Hospital Sept. 26, aged 66, of hypertensive heart disease.

Burgess, Marshall E. ⊕ Miami, Ariz.; Gate City Medical College, Texarkana, Ark., 1903; past president of the Gila County Medical Society; mayor of Miami; on the staff of the Gila General Hospital; formerly associated with the Indian Service; died in Phoenix, Ariz., Sept. 23, aged 74.

Burgner, Benjamin H. ⊕ Chicago; Chicago College of Medicine and Surgery, 1916; on the staff of the Garfield Park Community Hospital, where he died Oct. 15, aged 75, of pulmonary tuberculosis.

⊕ Indicates Member of the American Medical Association.

Campbell, Hiram Gill ⊕ Tecumseh, Okla.; University of Nashville (Tenn.) Medical Department, 1903; past president and secretary of the Pottawatomie County Medical Society; died in Lebanon, Tenn., Oct. 2, aged 81, of a heart attack.

Christophe, Herman C. ⊕ Manchester, N. H.; Boston University School of Medicine, 1900; affiliated with Elliot and Notre Dame de Lourdes hospitals; died Oct. 1, aged 79, of arteriosclerotic heart disease.

Clark, Richard Harry ⊕ Hattiesburg, Miss.; Tulane University of Louisiana School of Medicine, New Orleans, 1924; vice-president of the Mississippi State Medical Association; fellow of the American College of Surgeons; on the staffs of the Methodist Hospital and the South Mississippi Infirmary; died Sept. 23, aged 54.

Coe, Marie Condee, Los Angeles; University of Southern California School of Medicine, Los Angeles, 1952; certified by the National Board of Medical Examiners; pediatric resident at Los Angeles County General Hospital; killed in an automobile accident Aug. 5, aged 27.

Conklin, Rush West ⊕ Washington, D. C.; George Washington University School of Medicine, Washington, 1909; died Nov. 2, aged 76.

Cornet, Louis Anthony ⊕ Washington, D. C.; Georgetown University School of Medicine, Washington, 1921; member of the American Academy of General Practice; died Oct. 28, aged 56.

Davies, Matthew Wray ⊕ Delaware, Ohio; Starling-Ohio Medical College, Columbus, 1910; member of the American Academy of General Practice; served as county coroner; affiliated with Jane M. Case Hospital, where he died Oct. 17, aged 67, of cerebrovascular hemorrhage.

Dickinson, Charles Baldwin, Little Rock, Ark.; Eclectic Medical University, Kansas City, Mo., 1918; Kansas City (Mo.) College of Medicine and Surgery, 1923; served during World War I and was awarded the Purple Heart; died in Hot Springs National Park Oct. 13, aged 60, of cerebral hemorrhage.

Doles, James Wesley ⊕ Knoxville, Iowa; Northwestern University Medical School, Chicago, 1936; member of the American Psychiatric Association; past president of the Marion County Medical Society; served during World War II; affiliated with the Veterans Administration Hospital; died in the Veterans Administration Hospital in Des Moines Sept. 21, aged 44, of carcinoma of the liver and lung.

Eigler, Charles O. ⊕ Englewood, Colo.; Drake University Medical Department, Des Moines, Iowa, 1888; died in Englewood Aug. 11, aged 85, of acute coronary occlusion.

Flynn, David Storrs, Monmouth Beach, N. J.; Columbia University College of Physicians and Surgeons, New York, 1904; died in Dr. E. C. Hazard Hospital, Long Branch, Aug. 19, aged 73, of arteriosclerotic heart disease.

Francis, John Wesley ⊕ Perry, Okla.; University of Oklahoma School of Medicine, Oklahoma City, 1911; past president of the Kay-Noble Counties Medical Society; served as health officer of Noble County; on the staff of Perry Memorial Hospital; died Oct. 8, aged 72, of coronary infarction.

Gammill, James L., Haslet, Texas; Fort Worth School of Medicine, Medical Department of Texas Christian University, 1900; died in Denton Sept. 12, aged 83, of congestive heart failure.

Goggins, Robert Joseph ⊕ Oconto Falls, Wis.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1899; served during World War I; died Sept. 23, aged 77, of cerebral hemorrhage.

Haight, Julius Eugene, Walpole, Mass.; Albany (N. Y.) Medical College, 1899; served during World War I; school physician; for many years chief of staff, Highland Hospital in Beacon, N. Y.; died Oct. 7, aged 76, of coronary occlusion.

Harlan, Lee Henry, Chicago; Illinois Medical College, Chicago, 1910; died Oct. 20, aged 73, as the result of a fall from a third floor window.

Kapner, Zadok, New York City; New York Homeopathi Medical College and Flower Hospital in New York, 1917; affiliated with Park East and Beth David hospitals; died Oct. 20, aged 71.

King, Hubert Charles ⊕ Lakewood, Ohio; Western Rese University School of Medicine, Cleveland, 1914; fellow the American College of Physicians; past president of Academy of Medicine of Cleveland; director of medici emeritus, Fairview Park Hospital; died in Lakewood Hosp Oct. 17, aged 64, of pneumonia.

Lavy, William S., Gridley, Calif.; Hahnemann Medical Coll of the Pacific, San Francisco, 1904; city health officer; Oct. 9, aged 81, of coronary occlusion.

Layton, Roy Wilfred, Melrose, Mass.; University of Ka School of Medicine, Kansas City, Kan., 1913; fellow of American College of Surgeons; on the staff of the Mel Hospital; died Sept. 25, aged 65, of myocardial infarctio

Legat, Mary B. ⊕ Fox River Grove, Ill.; Illinois Med College, Chicago, 1908; affiliated with Women and Childr Hospital, Chicago, where she died Oct. 28, aged 82, of hy static pneumonia, arteriosclerotic heart disease, and diabete

Levin, Harry Maurice ⊕ Waterloo, Iowa; John A. Creigh Medical College, Omaha, 1919; affiliated with St. Fra Hospital; died Aug. 13, aged 57, of coronary disease.

Lewis, John Francis ⊕ La Salle, Ill.; University Me College of Kansas City, Mo., 1905; an Associate Fellow the American Medical Association; past president of the N Central Illinois Medical Association; affiliated with St. Ma Hospital in La Salle and St. Margaret's Hospital in Sp Valley; died Oct. 9, aged 74, of coronary occlusion.

Matthews, Duncan Newton ⊕ Columbia, S. C.; Me College of the State of South Carolina, Charleston, 1909; many years physician for the University of South Car boxing team; died in the Baptist Hospital Oct. 15, aged 7

Moore, George Henry ⊕ Upper Darby, Pa.; University Pennsylvania Department of Medicine, Philadelphia, 1 member of the American Academy of Ophthalmology Otolaryngology; died Oct. 1, aged 81.

Myller, Ernest ⊕ New York; Friedrich-Wilhelms-Univer Medizinische Fakultät, Berlin, Germany, 1919; specialist c fied by the American Board of Obstetrics and Gynecol affiliated with Madison Avenue and University hospitals; Oct. 23, aged 60, of acute coronary occlusion.

O'Dwyer, Joseph, Staten Island, N. Y.; Columbia Unive College of Physicians and Surgeons, New York, 1900; se during World War I; an examiner for draft boards du World War II; at one time on the staff of New York Found Hospital; died Oct. 19, aged 78.

Pence, Charles W., Philadelphia; University of Mary School of Medicine, Baltimore, 1894; medical examiner the Baltimore and Ohio Railroad; died in the Shenanc County Memorial Hospital, Woodstock, Va., Oct. 7, aged of coronary thrombosis.

Placa, James Anthony ⊕ Ridgewood, N. J.; Temple Unive School of Medicine, Philadelphia, 1936; died in Atlantic Hospital Oct. 25, aged 45, of acute coronary occlusion.

Price, Stanley Francis, *Chicago;* Loyola University Schoo Medicine, Chicago, 1918; died in Bay Pines Hospital, Petersburg, Fla., Nov. 1, aged 59.

Ramey, Cash Clay Jr. ⊕ Portales, N. M.; Rush Medical College, Chicago, 1942; served during World War II; participated in five major campaigns in the European Theater, and received several decorations including the Purple Heart for serious wounds received in action; member of the Roosevelt General Hospital; died Oct. 10, aged 36, of a heart attack.

Reeve, James Spofford ⊕ Appleton, Wis.; College of Physicians and Surgeons, medical department of Columbia College, New York, 1889; died July 22, aged 88, of cardiovascular renal disease and arteriosclerosis.

Robertson, Jackson Comer, Modesto, Calif.; Vanderbilt University School of Medicine, Nashville, Tenn., 1898; fellow of the American College of Surgeons; served during World War I; died Oct. 7, aged 81, of cerebral hemorrhage.

Rose, Bert Andrew, Dayton, Ohio; Howard University College of Medicine, Washington, D. C., 1912; formerly member of the state board of medical examiners; affiliated with Miami Valley and St. Elizabeth hospitals; awarded an honorary master of science degree by Wilberforce University, Wilberforce, Ohio; died Oct. 21, aged 68, of carcinoma of the right kidney.

Schuricht, Gustav M., St. Louis; Washington University School of Medicine, St. Louis, 1896; died in Lutheran Hospital Oct. 15, aged 79, of acute gangrenous appendicitis, peritonitis, and coronary artery disease.

Scott, James Jacob, Durand, Wis.; American College of Medicine and Surgery, Chicago, 1906; died Oct. 12, aged 74, of aortic and mitral regurgitation and ventricular dilatation.

Twohig, John Elmer ⊕ Fond du Lac, Wis.; Marquette University School of Medicine, Milwaukee, 1913; member of the American Academy of General Practice; on the staff of St. Agnes Hospital; died Aug. 14, aged 66, of adenocarcinoma of the cecum.

Uhr, Jacques Stanley ⊕ New Brunswick, N. J.; Fordham University School of Medicine, New York, 1914; fellow of the American Academy of Pediatrics; served during World War I; for many years affiliated with St. Peter's Hospital, where he was director of pediatrics; at one time assistant in diseases of children, Columbia University College of Physicians and Surgeons in New York; died Oct. 9, aged 61, of carcinoma of the stomach.

Uzmann, Francis Joseph Jr. ⊕ Lieutenant Commander, U. S. Navy, Queens Village, N. Y.; Hahnemann Medical College and Hospital of Philadelphia, 1943; honorably discharged from the U. S. Navy April 11, 1952, after serving with the Marines; served during World War II and also in Korea; died in Westhampton Beach, N. Y., Sept. 9, aged 39, of cirrhosis of the liver.

Valens, John Douglas ⊕ Modesto, Calif.; University of Manitoba Faculty of Medicine, Winnipeg, Canada, 1941; specialist certified by the American Board of Orthopaedic Surgery; affiliated with Modesto City Hospital and Stanislaus County Hospital; died in Sun Valley, Idaho, Oct. 7, aged 38, of injuries received in an automobile accident.

Waters, Donald ⊕ Wisconsin Rapids, Wis.; Detroit College of Medicine, 1900; died in the Riverview Hospital Sept. 15, aged 82, of heart failure.

Watkins, Daniel Alvey, Hagerstown, Md.; University of Maryland School of Medicine, Baltimore, 1903; at one time county health officer and police commissioner of Hagerstown; past president of the Washington County Medical Society; affiliated with Washington County Hospital, where he was past president of the staff and where he died Sept. 29, aged 76, of cerebral thrombosis and paralysis agitans.

Webster, Albert Martin ⊕ Portland, Ore.; University of Minnesota College of Medicine and Surgery, Minneapolis, 1904; past president of the Oregon State Medical Society; formerly city physician; an honorary staff member of Emanuel Hospital, after serving as an active staff member for many years; died Oct. 8, aged 85, of cerebral thrombosis.

Webster, Margaret E. Burgess, Philadelphia; Hering Medical College, Chicago, 1896; affiliated with Germantown Hospital and the Hospital of the Woman's Medical College of Pennsylvania; died Oct. 18, aged 78, of bundle branch block and arteriosclerosis.

Wellbery, Edward Montgomery ⊕ Richfield Springs, N. Y.; Cornell University Medical College, New York, 1907; died Oct. 10, aged 67, of acute coronary heart disease.

Whelan, Edmond Vincent, Springfield, Mass.; Tufts College Medical School, Boston, 1909; served during World War I; for many years school physician; affiliated with Mercy Hospital; died Sept. 13, aged 67, of coronary thrombosis and arteriosclerosis.

Whipple, Farrington Hasham ⊕ Portland, Maine; Harvard Medical School, Boston, 1892; member of the Massachusetts Medical Society; died in the Mercy Hospital Oct. 3, aged 87, of arteriosclerotic heart disease and bronchopneumonia.

Wick, William Winfield ⊕ Enumclaw, Wash.; the Hahnemann Medical College and Hospital, Chicago, 1904; served as health officer; died Sept. 14, aged 73, of a heart attack.

Wiedenman, Charles Edward H. ⊕ Schenectady, N. Y.; Albany (N. Y.) Medical College, 1921; fellow of the American College of Surgeons; past president of the Schenectady County Medical Society; affiliated with St. Claire's Hospital and Ellis Hospital, where he died Sept. 25, aged 57, of arteriosclerotic heart disease and diabetes mellitus.

Wilcox, John Miller III ⊕ Pitman, N. J.; Western Reserve University School of Medicine, Cleveland, 1930; member of the Endocrine Medical Association; died in Charity Hospital, Cleveland, Aug. 14, aged 46, of esophageal varices and cirrhosis of the liver.

Wilde, Salmon Perry ⊕ New Bedford, Mass.; Boston University School of Medicine, 1910; served during World War I; past president of the consulting staff of Sassaquin Sanatorium; affiliated with Union Hospital in Fall River, Acushnet (Mass.) Hospital, and St. Luke's Hospital, where he died Aug. 18, aged 66, of coronary occlusion.

Wiley, Bert Earle, Beverly Hills, Calif.; McGill University Faculty of Medicine, Montreal, Canada, 1901; fellow of the American College of Surgeons; died Aug. 5, aged 77, of heart disease.

Willard, Edgar Harold, Great Cacapon, W. Va.; University of Maryland School of Medicine, Baltimore, 1908; served as health officer of Morgan County; died recently in Berkeley Springs, aged 66, of malignancy of the spine.

Williams, James Marcus, Warsaw, N. C.; University of Maryland School of Medicine, Baltimore, 1902; died July 30, aged 78, of coronary embolism.

DIED WHILE IN MILITARY SERVICE

Cocks, Charles Edward Jr. ⊕ Colonel, (MC), U. S. Army, San Francisco; born in San Francisco May 31, 1908; University of California Medical School, San Francisco, 1933; interned at the Highland Hospital of Alameda County and Peralta Hospital in Oakland; served as associate clinical professor of medico-military sciences and tactics at his alma mater; entered the medical reserve corps of the U. S. Army as a first lieutenant on May 13, 1933; served during World War II; became a lieutenant colonel on Dec. 2, 1943; entered the medical corps of the regular army as a major July 15, 1946; formerly chief of public health and welfare for the Armed Forces Far East Command; in June, 1951, received the master's degree and in 1952 the degree of doctor of public health, both in hospital administration, from the University of California School of Public Health; died in the Letterman Army Hospital Sept. 29, aged 45, of coronary occlusion and myocardial infarction.

Graveline, Ernest Louis Jr., Pawtucket, R. I.; born in Pawtucket, April 15, 1922; University of Nebraska College of Medicine, Omaha, 1949; interned at the White Plains (N. Y.) Hospital; certified by the National Board of Medical Examiners; entered the U. S. Army March 16, 1943, and was discharged Feb. 10, 1946; in May, 1949, was commissioned a first lieutenant in the Medical Corps, U. S. Army Reserve; in June, 1950, was promoted to captain; attached to the Third Battalion, 23rd Infantry Regiment, Second Division; captured by the communists in Korea on May 18, 1951; died as a prisoner of war in a communist prison camp Oct. 15, 1951, aged 29.

GOVERNMENT SERVICES

ATOMIC ENERGY COMMISSION

Fellowships in Industrial Medicine.—Eight fellowships in industrial medicine will be offered by the U. S. Atomic Energy Commission for the 1954-1955 academic year. The fellowship program, which was begun by the AEC four years ago, is designed to provide advanced training and on-the-job experience for physicians in the field of industrial medicine, particularly in relation to the atomic energy industry. The fellowships are open to U. S. citizens who hold M.D. degrees from approved medical schools and who have had at least one year of internship. In exceptional cases, equivalent experience may be accepted in lieu of the internship requirement. Successful candidates must be investigated by the FBI and approved by the AEC before receiving fellowships. Awards are for one year's academic training at institutions offering approved graduate courses in industrial medicine that provide special training facilities in the health problems associated with the atomic energy program. Normally, fellows will be eligible for a second, or in-plant, training year on successful completion of the academic year. In-plant training will be given in medical departments of major AEC plants and laboratories. There is a critical need for qualified industrial physicians in atomic energy installations, and at the end of the two year training period fellows may find employment in the program. There will be no commitment, however, on the part of the AEC to continue the applicant's training beyond the first year or to provide employment for him on the completion of training. Fellows will not be obligated to take the second year of training or to seek employment with the AEC or its contractors. The stipend during the first year is $3,600, with $350 additional for a wife and for each dependent child. Tuition and laboratory fees will be paid. The stipend for the second year is $6,000, with no additional amounts for a wife or children. The program is administered for the AEC by the Atomic Energy Project of the School of Medicine and Dentistry, University of Rochester, Rochester, N. Y. Fellows are selected by a committee headed by Dr. Robert A. Kehoe, director, Institute of Industrial Health, University of Cincinnati, and medical director, Ethyl Corporation. Applications for 1954-1955 fellowships should be submitted by Jan. 1, 1954, to AEC Fellowships in Industrial Medicine, Atomic Energy Project, University of Rochester, School of Medicine and Dentistry, Rochester, N. Y.

ARMY

Award of Legion of Merit.—Col. Henry C. Harrell, chief of the diagnostic section of the x-ray service at Brooke Army Hospital, has been awarded the Legion of Merit for distinguished work as radiological consultant to the Army Surgeon of the Far East command. He was cited for outstanding service as chief of the radiology service at Tokyo Army Hospital, for professional competence and devotion to duty in serving the sick and wounded, and for skill in interpretation of x-ray examinations. In addition to other duties, Colonel Harrell planned and directed a radiological survey of prisoners of war on Koje-do and prepared a valuable study on incidence of disease in the group. He is a member of the American College of Radiology and of the Radiological Society of North America.

Hospital News.—Dr. Jacob Finesinger, professor of psychiatry, University of Maryland School of Medicine, addressed officer-students of the military neuropsychiatry class at the Medical Field Service School, Ft. Sam Houston, Texas, recently during a two day visit to Brooke Army Medical Center. Dr. Finesinger lectured on goal-directed psychotherapy. He also conducted a program on the doctor-patient relationship at the Brooke Army Hospital monthly professional staff meeting.

VETERANS ADMINISTRATION

Residencies Available at Indianapolis.—Several residencies are available in internal medicine, pathology, and psychiatry at the Veterans Administration Hospital, Indianapolis. The hospital, located on the campus of Indiana University Medical Center, is affiliated with the medical center, and has programs integrated with it. These residencies are fully approved by the specialty boards. The stipends are as follows: junior resident (first year) $2,640 per annum, intermediate resident (second year) $2,970 per annum, and senior resident (third and fourth years) $3,300 per annum. In addition, Korean veterans may be eligible for assistance under the G.I. training benefits. Applications for residency training or information in this regard may be obtained from Dr. Matthew Winters, Chairman, Dean's Committee, Indiana University Medical Center, 1040 W. Michigan St., Indianapolis, Ind., or D. R. Robinson, M.D., Chief, Professional Services, VA Hospital, 1481 W. 10th St., Indianapolis, Ind.

Personal.—Dr. Joseph I. Fitzsimmons, chief of professional services at the VA Hospital in Omaha, Neb., has been named manager of the 250-bed VA Hospital at Iron Mountain, Mich. He succeeds Dr. Carleton Bates, who retired Oct. 24, 1953.

MISCELLANEOUS

Members of the Hoover Medical Task Force.—The announcement of 12 more appointments completes the membership of the Hoover Commission task force on medical services. Earlier the commission named Mr. Chauncey McCormick, Chicago businessman, as chairman, and Dr. Edwin L. Crosby, also of Chicago, as research director. The third appointment announced earlier was that of Dr. Walter Martin, President-Elect of the American Medical Association. The following have accepted appointment to the remaining posts:

Dr. Francis J Braceland, formerly dean, Loyola University School of Medicine, Chicago, now psychiatrist at Institute of Living, Hartford, Conn.

Dr. Edward Delos Churchill, chief of general surgical service, Massachusetts General Hospital, Boston.

Dr. Michael DeBakey, chairman of department of surgery, Baylor University College of Medicine, Houston, Texas.

Dr. Evarts A. Graham, surgeon-in-chief, Barnes Hospital and Children's Hospital, St. Louis.

Dr. Alan Gregg, vice-president of Rockefeller Foundation, New York.

Dr. Paul R. Hawley, U. S. Army, retired, Chicago, director, American College of Surgeons, former chief medical director, Veterans Administration.

Dr. Theodore George Klumpp, president, Winthrop-Stearns, Inc., New York.

Dr. Hugh Rodman Leavall, professor of public health practice, Harvard School of Public Health, Boston.

Dr. Basil C. McLean, professor of hospital administration, University of Rochester, New York.

Dr. James Roscoe Miller, president of Northwestern University, Chicago.

Dr. Milton C. Winternitz, chairman, division of medical sciences of National Research Council, New Haven, Conn.

Dr. Otto W. Brandhorst, dean of Washington University School of Dentistry, St. Louis.

The task force will study operations of all federal medical programs, including Veterans Administration and military, and will recommend possible consolidations. Officially the commission is known as the Commission on Organization of the Executive Branch of the Government. The first Hoover Commission proposed, among other medical changes, that all federal medical services be grouped under a United Medical Administration. The plan was defeated in Congress. The Hoover Commission medical task force has decided to do some of its work in Chicago but most of it in Washington. At its organization meeting, the force decided to meet in Washington every two weeks until the survey of federal medical programs has been completed.

FOREIGN LETTERS

BRAZIL

Total Gastrectomy.—Among the reasons for the increase of the survival time in recent reports on cancer of the body and cardial regions of the stomach as well as infiltrating tumors of the whole stomach, total gastrectomy is frequently referred to. While some distinguished surgeons in recent papers suggest the routine use of total gastrectomy for the treatment of all cases of cancer of the stomach, other practitioners, no less prominent, oppose this radical procedure. In a recent paper published in *Medicina-cirurgia-farmacia* (17:175, 1953), Dr. Fernando Paulino, head surgeon of the Rio de Janeiro Casa de Saude São Miguel, reports his personal experience in 20 cases in which total gastrectomy was performed in the four and a half years ended on Dec. 31, 1952, in this small and well-equipped hospital. All the 20 patients left the hospital in good general condition and tolerating well the prescribed diet. In all cases the malignancy of the lesions was ascertained by pathological examination. There were 16 men and 4 women, with the minimum age of 32 and the maximum of 72, the average age being 56. The resection involved, besides the stomach, the spleen in 16 cases, the lower third of the esophagus in 6, the pancreas in 3, the colon and the gallbladder in 2, and the adrenal in one. A solution of glucose, amino acids, and alcohol was used to administer fluids, proteins, and calories needed during the first three days after the operation. Oral feeding was used after the third day, which seems to improve the recuperation of the patients and has no ill effect on the healing of the anastomosis. In no case was a catheter used through the anastomosis. Of the 20 patients, 7 died of metastases within 10 months after the operation, 2 within 24 months, and one after 25 months. One patient was operated on eight months after the total gastrectomy, metastases having been then found involving the preaortic lymph nodes. This patient was not seen afterwards for follow-up. Among the nine patients still alive, one was still surviving two years and six months after the operation, one at one year and four months, and seven at less than 10 months.

Dr. Paulino says that his experience does not permit him to recommend total gastrectomy as routine treatment of early gastric carcinomas or of the pyloric region. These tumors should be treated by subtotal gastrectomy, with resection of the great and lesser omenta, four-fifths of the stomach, and 3 to 5 cm. of the duodenum. He thinks that total gastrectomy should be performed in cases of (1) carcinoma of the median part of the stomach; (2) carcinoma of the cardial region of the stomach; (3) carcinoma invading the whole stomach; (4) sarcoma of the stomach of any localization or histological type (such as leiomyosarcoma or lymphosarcoma). He points out that the indication for total gastrectomy in cases of nonmalignant lesions must be exceptional; polyposis gastrica seems to him the most legitimate case.

Spraying of Houses with DDT for Control of Leishmaniasis.—During the first trimester of 1947, Dr. F. Nery Guimarães, of the Rio de Janeiro Oswaldo Cruz Institute, studied an epidemic of mucocutaneous leishmaniasis in Suruí, a rural locality of the county of Magé, state of Rio de Janeiro, known as an endemic focus of the disease. Of 306 persons examined, 39 (12.7%) were found to have leishmaniasis on the basis of the presence of the parasite or the positivity of Montenegro's reaction. Also found were 24 persons with old scars suspected to be sequelae of leishmaniasis, this having been later confirmed by the intradermal test. In 12 houses, 136 sandflies (11.3 per house) were collected by hand, all of the species Phlebotomus intermedius; this species was also found, besides several sylvatic species, in the vicinity of the dwellings and the forest. Throughout the surveyed area, from the end of 1947 on, the Serviço Nacional de Malaria has sprayed all houses with chlorophenothane (DDT), at six month intervals. In 1953, after five years of this mosquito control work, at the same season the previous leishmania survey was performed, Dr. Guimarães and Dr. Fernando M. Bustamante, of the Servico de Malaria, carried out a new clinical and epidemiological investigation that will be described in a future issue of the *Revista Brasileira de Malariologia.* Following is a summary of their findings:

In a house to house canvass, only one (0.3%) of 296 persons in 74 dwellings was found to have leishmaniasis. Sandflies were searched for by hand in the interior of several houses, including the 12 from which numerous specimens had been captured during the first survey. The results were entirely negative. New captures were then performed, this time by means of spraying an insecticide with a pyrethrum basis (Flytox) through a manual pump. Ninety-four houses were inspected, all having been sprayed except 20 that were uninhabited or closed at the moment. These 94 houses represented almost all of the community. The spraying of each house, done at the first hours of the evening, lasted an average of 20 minutes, and, at the end, a careful search was made for the insects. No sandfly was found inside the dwellings. In the outside—near the living areas and in the forest—manual captures were made, and, as had occurred before the DDT spraying of the region, many sandflies were collected, a part of them Phlebotomus intermedius, i. e., the same species found before in the interior of the houses.

As ascertained by the authors, the leishmania case rate fell from 12.7% to 0.3% after the regular chlorophenothane spraying of the houses. Since about 50% of the persons infected with leishmaniasis found before the spraying were treated thereafter, this may have been a factor in limiting the normal spread of the disease, but this could never explain the almost total disappearance of the disease, which is undoubtedly the result of the absence of sandflies in the dwellings. On the other hand, as these insects are still found outdoors, the extradomiciliary transmission of the disease should have had only a secondary role in the increase of the intensity of the focus. This means that the disease was, at the time of the former investigation in this area, spread predominantly in the houses, thus explaining its epidemic character. The presence of a considerable number of sandflies so near the houses, but not in their interior, added to the fact that they belonged to a semidomiciliary species, i. e., Phlebotomus intermedius already found before in the interior of the dwellings suggests that chlorophenothane not only kills the flies but repels them. To explain a different result reported by Corradetti in 1952 of the disappearance of sandflies not only from the interior of the houses but also from their vicinity after two chlorophenothane sprayings, the authors emphasize the fact that the sandflies of the region studied (Abruzzo, Italy) are only domiciliary, and apparently breed in the neighborhood of the dwellings, feeding on man and domestic animals exclusively. Since in this case the stables had also been sprayed and there are almost no forests there (and consequently not enough wild mammals), the flies had almost no source of food and disappeared entirely.

The disappearance of the sandflies from the interior of the houses causing the sharp decrease of leishmaniasis to an insignificant level, as observed in the focus under study, enables the authors to predict a similar result in all regions in which leishmaniasis is endemic (the visceral form as well) and where a campaign of domiciliary DDT spraying will be carried out. Therefore, they recommend this method as a basis for leishmaniasis control.

The items in these letters are contributed by regular correspondents in the various foreign countries.

Congenital Absence of Gallbladder.—Excluding patients in whom there were also other malformations of the biliary ducts, only about 75 patients with congenital absence of the gallbladder have been reported in the medical literature. Dr. Luis da Costa Lima, of the Rio de Janiero Hospital dos Pescadores, recently reported three more cases in *Rivista Brasileira de Cirurgia* (**25**:179, 1953). In these patients, two women and one man, icterus was the most prominent symptom, and the correct diagnosis was made only during the operation, as was the case in the patients previously reported. In two of these patients a diagnosis of stone obstructing the ductus choledochus was made, and in the third, the biliary peritonitis was recognized but the diagnosis of vesicular agenesia was not made. In this patient the biliary peritonitis was probably caused by retroduodenal perforation of the ductus choledochus, because inspection of the subhepatic space revealed a flow of small calculi through the epiploic foramen. Therefore, the so-called choleperitoneum without perforation (which was admitted by Buchanan as possible after edema of the extrahepatic biliary ducts, imperceptible rupture of the biliary ducts, or a retroperitoneal biliary flooding), did not occur. According to Mariano de Andrade, who published a report on a patient with congenital absence of gallbladder associated with choleperitoneum in 1949 in Brazil, this condition is extremely rare, since he did not know of another case in the medical literature before his own. The author's case would then be the second of the kind, and probably the first with a clear rupture of the ductus choledochus. The author points out that in his first patient the fossa vesicae felleae was present but empty, and reminds us that, according to Dixon and Lichtman, the fossa vesicae felleae was present in only 7 of 90 patients with vesicular agenesia of all kinds.

Vesicular agenesia has no symptomatology of its own, but abnormalities of the biliary ducts are common in connection with this condition. The ductus choledochus may or may not be dilated even in the absence of stones. In the three patients reported the duct was greatly dilated and contained several stones. In one patient stones were also present in the left hepatic duct. As vesicular agenesia is a condition with symptoms similar to those of lithiasis of the ductus choledochus, especially if accompanied by icterus, the author suggests that, during the operation, the ductus and the adjacent organs should be examined and, if possible, cholangiography with retrograde filling should be performed.

DENMARK

Chemotherapy of Tuberculosis.—Prof. K. A. Jensen and his co-workers have reported that, in cases of pulmonary tuberculosis with cavitation, the administration of isoniazid may produce resistant strains of tubercle bacilli after only two weeks. After three months of treatment with this drug, about 88% of the organisms have become resistant to it. Indeed, when isoniazid is given by itself resistance to it develops almost as quickly as it does to streptomycin. In one series of patients combined treatment with isoniazid and *p*-aminosalicylic acid was given with the result that after three months a tendency to a rise of resistant strains of tubercle bacilli was demonstrable in only 2 out of 13 patients. A month later, 3 of these 13 patients showed isoniazid-resistant strains. The most effective treatment was found to be a combination of streptomycin, *p*-aminosalicylic acid, and isoniazid. The addition of isoniazid to the combination of streptomycin and *p*-aminosalicylic acid did not give rise to any greater discomfort in the patient. At present, treatment with isoniazid alone should be avoided, however tempting it may be to give it at home and without any serious inconvenience. The optimal dosage of the three drugs is being investigated, and it already appears that an appreciable reduction can be made in the dosage of streptomycin without seriously impairing its therapeutic action. Although at one time as much as 3 gm. of streptomycin was given daily, only 1 gm. weekly need be given when it is combined with *p*-aminosalicylic acid and isoniazid.

Sexual Life of Young Danish Women.—Dr. Kirsten Auken, who is the mother of five children, has written a book on the sexual life of women between the ages of 20 and 35. Her material was obtained from three hospitals in different parts of Denmark. She interviewed the patients only when they were about to leave the hospital in order to avoid undesirable gossip in the hospital itself. The physicians in charge of two other hospitals refused their consent to these interviews that were granted with such unanimity by the patients that only 3 out of 318 women refused to partake in them. It was perhaps inevitable that Dr. Auken's work should promptly be called a Danish Kinsey report, but she insists that her methods and findings differ from those of Dr. Kinsey. Her material was gathered from every social class and from many different parts of Denmark. She found that the lower the social class, the earlier the age at which sexual relationships are started, and her findings suggest that the homosexual rate among Danish women is much lower than that discovered by Kinsey in the United States. With regard to the source of information about sexual matters, other women were responsible in 46% and the mother imparted this knowledge in 11.9%; 52% of the women wished that they had been better informed on the subject. In 8.8% sex information was obtained by observing the behavior of animals. Sisters had imparted sex information to another 8.8%, but only 3.1% had been given sex education in school. Respectable publications on the subject had been the main service of information for 5.1%, and pornographic publications for only 1.7%. Many woman, 88.6%, wanted for their children a more adequate sexual education than they themselves had had.

Drug Addiction Problems.—At a meeting of the Copenhagen Medical Society, the problems of drug addiction were discussed. Some of these problems may seem insoluble, but their discussion from time to time helps not only to give a fairly accurate impression of their scope but also to indicate new means that may prove helpful. One speaker referred to a comprehensive analysis he had recently undertaken of about 54,000 medical prescriptions that in the course of a month had been filled by retail druggists. Morphine and opium were numerically the most important drugs prescribed. Amphetamine came next, and meperidine (Demerol) hydrochloride and methadone (Butalgin) hydrochlirode were less popular. Although 40% of the narcotic prescriptions were for morphine or opium, only 2% were for heroin and 2% for cocaine. As was to be expected, many of the prescriptions had been refilled frequently for the same person. The speaker emphasized the practical value of keeping an index file of addicts in Denmark. Another speaker suggested that it should be made illegal to be found in possession of narcotic drugs without a sound reason for it. At present it is only when such drugs are acquired by theft or forgery that their possessors can be prosecuted. If the mere possession of them without justification could be made a criminal offense, it might be possible to prevent addiction in some narcotic users. Another speaker referred to ships' medicine chests as a serious loophole through which narcotics can be obtained. At present any ship's captain can order a supply of such drugs without a physician's prescription. Yet another speaker reported that 56 of 80 patients admitted to hospitals for drug addiction between 1944 and 1950 represented readmissions.

LONDON

Reports on National Health Service.—A detailed account of the working of the National Health Service in England and Wales in 1952 shows a net expenditure for the year ended March 31, 1952, of £348,457,732. At the end of 1952 the number of beds in hospitals was 507,368. The number of inpatients (measured by discharges and including deaths) during the year was 3,414,373, compared with 3,259,214 in 1951. The number of new outpatients increased by 4.9% to 6,605,765. The total waiting list increased by 527 to 500,307. The waiting list for tuberculous patients fell from 7,096 to 6,126. At the end of the year there were 63 mass radiography units in civilian use. In these units 10,654,554 persons had been examined, of whom 3.3 in every thousand were found to have active tuberculosis. Up to the end of the year, about 93,600 persons had been vaccinated with BCG. This figure includes, in addition to contacts, nurses and medical students because of their greater than average exposure.

During the year surgical and medical appliances were provided through the hospital service to the value of £2,980,000. These included 44,991 pairs of surgical footwear, 75,393 abdominal appliances, 35,373 elastic stockings, and 7,255 wigs. The number of new artificial limbs (including replacements) provided since the service began rose from 40,217 to 51,250. The number of invalid chairs and tricycles provided during the year was 12,411, and 7,369 artificial eyes were provided. Hearing aids were supplied to 88,000 new patients, bringing the total supplied since the beginning of the service to 260,000. There was still a wainting list of 66,000.

The total number of blood donations was 647,009, the highest total in any year since 1944, the peak year of the war period. An analysis of how blood was used was made on a 5,000-bottle sample in an industrial city, with the following results: accident cases 10.45%, gynecologic and obstetric patients 19.67%, medical patients 32.23%, and surgical patients 37.65%.

In 1952, the x-ray departments of about 600 hospitals (about half the hospitals with such facilities) carried out 741,000 examinations of patients referred directly by general practitioners. The comment was made that "where the service is available it is certainly not abused and the demand has been less than anticipated." During the year 400 hospital pathology laboratories (just over half the total number in the country) dealt with 554,000 specimens that had been referred directly by general practitioners.

A detailed analysis of general medical practice within the service as of July 1, 1952, showed that there were 17,204 physicians providing unrestricted general medical services, of whom more than half were practicing in partnership with one or more other physicians. There were also 1,689 "permanent" assistants (assistants employed for periods of three or more months) and 309 assistants in training. Twenty-two per cent of the physicians practiced in rural areas, 34% in semiurban areas, and 44% in urban areas. The geographical distribution of general practitioners shows that the towns having fewest physicians per unit population are those in the industrial Midlands, on the north-east coast, in South Yorkshire, and in Lancashire. The areas with the smallest average lists of patients were in the southern half of England, North Wales, and seaside towns. There is a tendency for proportionately more of the physicians in the "under-doctored" areas to be in younger age-groups.

Since the introduction of the National Health Service there has been much talk about the difficulty in assistants in general practice getting practices of their own or in becoming partners. This survey shows that, of 1,689 assistants employed in July, 1952, more than half were employed by physicians practicing alone. Ninety per cent of them were the sole assistants employed by the medical firm in which they were working. Two-thirds of them were aged 35 or under, and most of these had been in their present posts for less than two years; one-fifth of the total were aged 36 or over and had been in their present posts for over two years, and 14% were aged 46 or over. During the second half of the year 51 assistants became principals and 131 became partners in existing practices. Of these, one-half had been assistants for less than a year; a quarter for one or two years; one-eighth for two to three years; and the remainder for longer periods.

During the year 412 alleged breaches by general practitioners of their terms of service were considered by service committees and reported to the ministry by executive councils. In 251 cases the council recommended that no action be taken. In 47 a warning letter was sent, and in the others some action was taken, usually consisting of the withholding of money.

Caution Concerning Cortisone.—A note of caution concerning the use of cortisone in the treatment of rheumatoid arthritis was struck by two of the contributors to the annual symposium on advances in treatment in *The Practitioner* (**171**:346-425 [Oct.] 1953). Prof. D. M. Dunlop of the University of Edinburgh stated: "Although hypercortisonism modifies the reaction of the host to certain agents, it has little or no effect upon the agent itself. In . . . rheumatoid arthritis, the noxious etiological agent may persist indefinitely, and a return of signs and symptoms following withdrawal of the hormone almost invariably ensues. This 'rebound' phenomenon often occurs in a peculiarly virulent form. In such disorders therefore, to effect suppression of the manifestations of the disease, the hormone has to be given indefinitely. The suppressive dose is seldom less than 50 or 75 mg. a day, and unfortunately few patients can be adequately controlled for long periods of time on such doses without eventually developing the undesirable side-effects of hypercortisonism which will necessitate abandonment of treatment. Further, the dose of cortisone adequate to suppress symptoms tends to rise in the course of time and the dangers of sodium retention, oedema and hypertension become greater with advancing years. Prolonged treatment is liable to cause osteoporosis, sometimes manifested by the sudden collapse of a vertebra. Thus, the longer an induced hypercortisonism is sustained, the more are injurious side-effects likely to be encountered. In these circumstances the ethics of relieving symptoms temporarily with cortisone must be seriously questioned in any patient in whom the noxious etiological agent is likely to persist permanently. Indeed, in rheumatoid arthritis there is some evidence that in the long run the ultimate state of patients controlled by cortisone is no better than those controlled by adequate doses of aspirin."

A similar attitude was adopted by Dr. William Tegner, London Hospital, who said, "The advocacy of these new [agents] . . . has led to enthusiastic trial [which] . . . must be expected so long as rheumatoid arthritis remains a disease of unknown etiology and doubtful prognosis. Both doctor and patient are quite naturally eager to clutch at straws . . . But after early hope and optimism, disappointment inevitably follows. . . . Cortisone and ACTH can have a profound and gratifying effect in suppressing the activity of rheumatoid arthritis but . . . this early effect may need progressively larger doses for its maintenance and . . . prolonged treatment may bring with it a host of difficult and even dangerous side-effects. . . . It has been suggested that the rôle of cortisone and ACTH is to tide the patient over until a natural remission has set in; but one can never foresee when a remission will occur and too often dangerous side-effects have become apparent before any remission has manifested itself. These difficulties are especially prominent in elderly patients and in post-menopausal women, who seem to tolerate prolonged treatment with these hormones very badly."

Potassium Permanganate as an Abortifacient.—Five new cases of vaginal ulceration following the insertion of potassium permanganate for the purpose of procuring abortion were reported by E. A. J. Almett and C. S. Nicol (*Brit. M. J.* **2**:759, 1953). Three had vaginal bleeding, one a brownish vaginal discharge, and one pain, dysuria, and swelling of the vulva. Four of the patients were found to have the characteristic apposition vaginal ulcers produced by potassium permanganate. Four gave a history of inserting tablets to achieve abortion; the remaining one admitted only using a solution of tablets in a douche. Bleeding occurred in all five, but in none was packing or transfusion necessary, although ligation of a bleeding artery was necessary in one. Abortion as a result of the use of the tablets did not occur in any of the patients. Three first attended a gynecologic outpatient department, and two a venereal diseases clinic. The main difficulty in diagnosis is confusion with primary syphilis, as the ulcers may be mistaken for contact chancers. The common use by women of potassium permanganate in tablet form for procuring abortion and the ease with which it may be obtained were stressed. Tablets of potassium permanganate are readily obtainable from pharmacists, and there is no restriction on their sale.

New Developments in Radiotherapy.—News has just been released of the installation of a linear accelerator and a cyclotron in the Medical Research Council Radiotherapeutic Unit at Hammersmith Hospital. The radiotherapeutic unit occupies the end wings and three stories of the central block. The two-story north wing houses a 45-in. cyclotron; and the single-story south wing houses an 8 mev linear accelerator. The fourth floor of the central block is occupied by a hospital research department. Four more stories of the central block (yet to be built) will be occupied by the London University Postgraduate Medical School. Each wing was designed as a self-contained unit to be linked up with the central block containing laboratories. The cyclotron suite was planned to go above ground and not below ground as is sometimes done to provide protection against radiation. In the case of both the cyclotron and the linear accelerator protection is provided by reinforced concrete walls and roofs about 6 ft. thick. The main doorway to the cyclotron chamber is formed with an electrically operated 35-ton door consisting of a steel box filled with concrete. The door between the cyclotron chamber and the assembly bay is a 190-ton electrically operated, horizontally moving door of reinforced concrete.

The linear accelerator is a direct descendant of radar, and provides another example of wartime discoveries being applied to medicine. It has been developed by the Atomic Energy Research Establishment in colaboration with the Medical Research Council Radiotherapeutic Unit and makes use of the frequency magnetron that is the basis of radar. It receives its name from the fact that it accelerates a beam of electrons down a straight tube (3 m. in length), and in this process a voltage of 8 million is attained. The beam has a very short wave length and a relatively great penetrating power, and it is hoped that it may prove of value in the treatment of deep-seated malignant growths. From the point of view of handling, it is as compact and as easily handled as the ordinary deep x-ray units of 200,000 volts now in general use. The one that has been installed at Hammersmith is the first of its kind to be used for clinical purposes, and the results of its use are awaited with much interest. It is reported that the Ministry of Health has already placed orders for several 4-million volt units for installation in various hospitals throughout the country.

The cyclotron, which is still in the process of construction, is the first cyclotron in this country to be built in a hospital. Its potentialities in medicine are still not clearly defined, but two uses are immediately indicated. One is for the production of radioactive isotopes of such a short life that they can be used only for therapeutic or research purposes. The other is to determine whether the neutron radiation of the cyclotron has any advantages over other forms of radiotherapy in the treatment of malignant disease.

The Physician's Office.—Within a fortnight of the publication of the report of the British Medical Association committee on general practice, a letter was sent by the general medical services committee of the British Medical Association to every general practitioner in the National Health Service, "earnestly hoping that [he] will do his utmost to provide the highest possible standard of surgery and wainting-room accommodation for his patients." The opinion is expressed that the general standard is of a high order, but "a number of general practitioners have, by reason of building restrictions and the high cost of repairs and maintenance, been prevented from doing all that they would have wished in this respect." It is pointed out that under his terms of service a practitioner at his own expense "is required to provide proper and sufficient surgery and wainting-room accommodation for his patients" and that any member or officer of the executive council or local medical committee can, under the regulations, inspect the accommodation provided. Further, a practitioner's remuneration in the National Health Service takes into account his obligations to provide suitable premises, and it remains his personal responsibility to provide them at his own expense.

Physicians should review the surgery and wainting room accommodation in their practices for the following reasons: 1. There has been a general relaxation in building restrictions. 2. Health centers are unlikely to be built on a large scale for a long time to come. 3. As a result of the Danckwerts award, general practitioners are in a better position to embark on such expenditure. 4. The practice expenses ratio established by the Danckwerts award includes a substantial element in respect of the cost of maintaining surgery premises. The committee does not consider it either practicable or desirable to lay down any minimum standards. It believes that any necessary improvement in the standard of accommodation provided should develop spontaneously from a wish by the physicians concerned to ensure that their offices are compatible with the prestige and status of general practice in the service.

SWITZERLAND

International Congress of Rheumatic Diseases.—The Eighth International Congress of Rheumatic Disease was held in Geneva Aug. 24-28. Over 1,000 rheumatologists from about 40 different countries, including the U. S. S. R., attended. The welcoming address was delivered by Prof. K. M. Walthard, president of the organizing committee. Dr. Knutti, of the National Institute of Arthritis and Metabolic Diseases, Bethesda, Md., told of the fight against rheumatic diseases in the United States. A series of reports was devoted to the study of the relations between rheumatism and conjunctival tissue. Professor Nesterow of Moscow expounded the theory that rheumatism is an infectious-neurogenic reaction in which disturbances in the floor of the diencephalic neurovegetative centers play a large part. Professor Reichstein, from Basle, spoke on the chemistry of hormones of the adrenal gland, and especially hydrocortisone (17-hydroxycorticosterone) and desoxycorticosterone. His synthesis of these hormones a few years ago brought him the Nobel prize in medicine. He then announced the discovery of a new compound provisionally named electrocortine. This substance is closely related to desoxycorticosterone and its physiological and pharmacological action is said to be 30 to 40 times more powerful. Its place in the treatment of rheumatic diseases has not yet been definitely determined. Dr. Philip Hench, from the Mayo Clinic, reported on the therapeutic use of cortisone and corticotropin (ACTH) in rheumatism. He warned against the abuses of cortisone, described the prevention and the treatment of hypercorticism, the methods of interruption of the treatment, and the prevention of acute adrenal insufficiency in patients treated by these hormones who might have an increased reaction to stress as a result of a serious infection, a trauma, or a surgical operation. Professor Goslings set forth the criteria needed to evaluate the degree of action of a preparation of corticotropin in man. This study showed the difficulties of testing the activity of this hormone and the necessity, during a clinical study, to use a single source of hormone.

These five days of scientific work were pleasantly interrupted on Aug. 26 by a journey to Aix-les-Bains, the well-known French center for the treatment of rheumatism, where clinics were held for the visitors. As the scientific sessions continued, the two protagonists of the introduction of plastic material for the reconstruction of diseased femoral heads, Prof. Merle d'Aubigné and Dr. Judet, of Paris, presented the results of seven years of experience. In a series of 500 cases of coxitis, Dr. Judet observed good results that have been maintained for several years in 65% of patients. Many of these patients who had been invalids were enabled to walk and some even to return to their work. Because of the tendency to remissions and the progressive nature of polyarthritis, the rehabilitation of patients is difficult. Bennett, of the International Labour Office in Geneva, spoke of the efforts of this organization to find for the patient employment best adapted to his remaining abilities.

Prof. Maurice Roch Retires.—Prof. Maurice Roch, who has reached the age limit for teaching, will leave the faculty of medicine of Geneva University in October. He will be remembered for his book "Dialogues Cliniques" and for his approach to the patient as an individual rather than as a specimen. Professor Bickel, a disciple of Professor Roch, will succeed him.

CORRESPONDENCE

THE KINSEY REPORT

To the Editor:—The newer findings concerning physiology of the pubococcygeus muscle strike at the very roots of the conclusions implied by the Kinsey report. Even if the statistical data were unassailable, Kinsey's interpretation is based on concepts that have long been controversial. This applies particularly to the question of vaginal and clitoral orgasm. I believe, as many others do, that research in the physiology of the pubococcygeus muscle has produced overwhelming evidence in favor of the existence and importance of vaginal orgasm.

Kinsey stresses the subject of conditioning, especially in relation to premarital experience. Obviously, if conditioning emphasizes clitoral stimulation, the problem of future satisfactory sex relations is aggravated. I believe, if this fundamental error in Kinsey's understanding of orgasm is adequately exposed, considerable doubt will be thrown on the accuracy of his conclusions. The necessity for mitigating the impact of the Kinsey report on the public is illustrated by a recent radio discussion on juvenile delinquency. Judge Bernstein of Los Angeles stated that it has become difficult to answer delinquent girls who brazenly quote the Kinsey report in order to justify their actions. Similar observations have come from probation officers. A former president of the California Bar Association remarked that judges are looking for well-founded medical opinions to counter the irresponsible use of the Kinsey report.

Parents find themselves in the same dilemma, and they will appreciate well-presented physiological knowledge that will help them guide their children. It is possible that many youngsters, who do not understand the importance of moral and legal restraints, may accept the advisability of avoiding behaviors that are detrimental to their future sex appreciation, happiness, childbearing functions, and prevention of so-called "female complaints."

Now as to Kinsey's book. For the stated purpose of his research, i. e., establishment of a basis for the revision of existing sex laws, Kinsey applied the statistical method, which is widely accepted in the social sciences. This is not the place to go into the question of whether material gathered by that technique is significant from the medical point of view. We must, however, take cognizance of the fact that histories based on interviews were collected during a 15 year period prior to Jan. 1, 1950. It appears that the standardized questions were formulated on the basis of information available at onset of the inquiry, approximately 18 years ago.

With regard to the anatomy of the pubococcygeus muscle and the sexual physiology of the vagina, the decisive discoveries were published only subsequent to that time. In February, 1939, Curtis, Anson, and McVay presented (in *Surg, Gynec. & Obst.)* completely new findings concerning the anatomy of the pubococcygeus muscle. In particular, Anson demonstrated the presence of minute terminal interdigitating fibers inserting in the wall of the urethra and of the middle third of the vagina. Anson stated that all previous descriptions of pelvic anatomy are either incomplete or erroneous. Anson's work on the pelvic anatomy became more readily accessible in the fifth edition of Curtis' "Textbook of Gynecology" (1947) and subsequently in Anson's "Human Anatomy" (1950). Kinsey's statements are based on the assumption that the vagina is insensitive because its superficial tissues contain few if any sensory nerves; on the other hand, his material indicates that satisfaction is, in a certain percentage of cases, obtained from vaginal penetration during coitus. He assumes the presence of a "mechanism that lies outside of the vaginal walls themselves" (page 581). Kinsey states further "that the deep penetration of the rectum may bring satisfaction which is, in many respects, comparable to that which may be obtained from a deep vaginal insertion" (page 581). His report that anal and deep vaginal feeling are parallel can be explained by the anatomic arrangement of the pubococcygeus, which surrounds both organs. My clinical studies have led me to conclude that within the pubococcygeus there exist highly specialized proprioceptive nerve endings. Any sensation received by these proprioceptors must differ from that derived from superficial innervation.

The pubococcygeus varies widely in different women, independent of age or childbearing. Roughly speaking, one-third of all women have a strong pubococcygeus, another third have a weak and atrophic pubococcygeus, while the rest can be described as borderline cases. The status of the pubococcygeus shows a definite relationship to the various functions of the muscle, i. e., support, stretching during parturition with subsequent return to normal, bladder control, and sexual response.

It is interesting to refer to a paper by John W. Huffman (The Effect of Gynecologic Surgery on Sexual Reactions, *Am. J. Obst. & Gynec.* 59:915-917 [April] 1950). who found that various gynecologic operations, including removal of the clitoris, did not interfere with sexual activity in mature women. Huffman states: "This study would tend to bear out the assumption that the vagina becomes the center of normal sexual activity in the mature female. . . . Sexual stimulation increases engorgement of the genitals; as a result of physical contact vaginal sensory organs are stimulated. These stimuli produce vaginal contractions and spasmodic muscular movements which culminate in a phenomenon comparable to the male orgasm, but without the discharge of retained secretions."

Kinsey remarks, on page 580, "The relative unimportance of the vagina as a center of erotic stimulation is further attested by the fact that relatively few females masturbate by making deep vaginal insertions." This statement is significant, as Kinsey consistently uses response to masturbation as the measuring stick of orgasm. Of further interest are the figures in table 23 (page 178) concerning the incidence of masturbation in married women. The figures lie between 23 and 36%, with a rough weighted average of 33%. It is noteworthy that examination of many thousands of women has shown that the pubococcygeus is weak in about one-third of them. It is my impression that the same third masturbate during married life, because weakness of the pubococcygeus renders them unable to receive sexual satisfaction from coitus. Many of our patients abandoned clitoric stimulation and masturbation as soon as function of the pubococcygeus was improved.

I have found that women who depend on clitorolabial stimulation are as a rule not aware of the presence of the pubococcygeus and of the possibility of contractions of this muscle. In the restoration of function of the pubococcygeus, it is of decisive importance that awareness of the muscle be established as a first step. In several publications I have stressed this point. A surprising finding is that mere awareness of the pubococcygeus and its contractility tends to improve its various functions. This applies also to sexual appreciation, which may thus be enhanced even before active exercises are instituted. In many women with borderline problems of lack of disturbance of vaginal feeling, it is sufficient to identify the pubococcygeus for the patient and to inform her of its contractile and sensory potentialities. Concentration on the muscle seems to cause patients in this group to forget the clitoris.

Naturally, the question must arise as to why the pubococcygeus shows such great variations in women. It should be mentioned that, among the thousands of women examined at Los Angeles County General Hospital and in private practice, there were women from various races and extractions, including Negroes, Mexicans, Chinese, and others. No differences could be established on the basis of national or racial origin. The explanation must, therefore, be looked for in the phylogenetic character of the pubococcygeus. The former "tail-wagger" lost its principal means of exercise when the human being assumed the upright position, while at the same time a new function, pelvic support, was added. The pubococcygeus, along with the quadriceps and rectus abdominis, is an old muscle in transition, prone to atrophy of disuse. It must be maintained in a state of tone and vitality through conditioned reflexes.

Seventy-five per cent of women with urinary stress incontinence during adult life present a history of difficulties with micturition in childhood. This finding indicates that the development of a strong pubococcygeus is related to training in sphincteric control, both anal and urinary. The sexual function of the pubococcygeus is superimposed on these sphincteric and supportive functions acquired earlier. It is very improbable that vaginal feeling can be established in a poorly developed pubococcygeus at the time of first intercourse, be it gentle or rough; but subsequently the sexual function may be developed in some cases. The response of a strong pubococcygeus to the quality of first intercourse is not consistent. In some women sexual conditioning is brought on in spite of a rough first experience, but as a rule a gentle, gradual technique is more conducive.

Kinsey stresses premarital experience as important for sexual appreciation, without reference to the quality of early experience. In view of the physiological facts concerning the pubococcygeus muscle, Kinsey has missed the most important point completely. The effect of early experience depends on the factors associated with coitus as an expression of true love, which Kinsey ignores throughout his book. A first experience, whether marital or premarital, that begins with rape and fear and under uncomfortable or immoral circumstances is hardly conducive to conditioning of the highly sensitive vaginal function. Conditioning of response exclusively to clitoral stimulation interferes with the development of vaginal feeling.

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ATRIUM AND AURICLE

To the Editor:—It is extremely gratifying, at long last, to note that "official" recognition has been given to the general misuse of the word auricle in well-known clinical entities such as atrial flutter, atrial fibrillation, atrial septal defects, and atrioventricular block. The recent (fifth edition, 1953) "Nomenclature and Criteria for Diagnosis of the Heart and Blood Vessels" published by the New York Heart Association and distributed by the American Heart Association has finally discarded auricle for atrium wherever the upper chambers of the heart are concerned. This is a delayed but welcome concept that has been ignored in previous editions of this valuable manual.

About 25 years ago I joined with the late Dr. A. E. Parsonnet in an endeavor to correct the traditional misuse of the word auricle in describing the atria of the heart. Our objections were based on the very definition of the word: "Auricle [L. auricula, the external ear]. 1. The pinna of the ear; the ear flap or external ear. . . . 2. An appendage to the atria of the heart; auricular appendix. 3. Any ear-shaped structure or appendage. 4. Commonly used mistakenly for atrium" ("Blakiston's New Gould Medical Dictionary," Phila delphia, the Blakiston Company, 1950, p. 109). In a previou communication ("Discarding of Out-Dated Medical Terms, *J. A. M. A.* [July 5] 1952) I originally included the wor auricle in the list of medical terms that had out-lived thei initial concept, but it was omitted in favor of such old tim favorites as water hammer pulse and hobnail liver. Ther appeared to be a general reluctance among most clinicians t abandon a word as familiar as auricle, although its misus was well recognized by all teachers of medicine.

The more or less rapid change from auricle to atrium i medical thinking during the past few years has been du chiefly, I believe, to the advances made in cardiac surger On the operating table the auricle is definitely an appendag to the upper chamber of the heart; it is not the enti chamber. As a technical procedure it became necessary f the surgeon to differentiate the atrium as a whole from th auricle; in mitral commissurotomy the left auricle is sometim amputated and removed. This surgery would be impossib under the traditional use of the word.

The obvious purpose of this communication is to point o the need for a prompt acceptance of the word atrium in plac of auricle in all future medical literature. The words are n longer colloquially interchangeable. The auricle, insofar a the term refers to the heart, is an appendage to the atriun The terms auricular flutter, auricular fibrillation, and the lik no longer serve any useful purpose.

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QUININE IN TONIC WATER

To the Editor:—Cinchonism is relatively rare in the Unit States both because of the low incidence of malaria and b cause of the use of the newer antimalarial drugs when ind cated. I think it worth while to present to your readers th following unusual reaction because of the increase in pop larity, at least in the east, of the drink "gin and tonic."

I saw a 43-year-old man in consultation who had a seve week history of tinnitus and hearing loss. He had consulte an otologist, who found bilateral diminution in hearing, an a neurologist, who suggested the diagnosis of bilateral angl meningioma. Because of the history of daily ingestion of seve to eight drinks per day he was sent for a medical evaluatio prior to further workup for neurosurgery. The history o alcohol ingestion was correct, but his diet was in general ad quate. After a physical examination, which was not remark able except for the facts already noted, casual discussio brought out the fact that the drinks were always gin and tonic Since I had seen cinchonism in the southwest Pacific, I though it worth while to change the beverage to Tom Collins. Withi 48 hours the symptoms had disappeared. A test dose of 30 mg. of quinine brought a return of the tinnitus. Later, a tes dose of 150 mg. produced the same effect. Three weeks afte the discontinuance of the quinine, audiogram showed restora tion of hearing.

While I have not obtained the exact formula of quinin water, I am informed that the Schweppes brand contains abou 30 mg. per pint. The man was ingesting about 100 mg. daily It is clear that it would take an enormous consumption t produce the symptoms in the normal adult, but the existenc of idiosyncrasy is well known, and this source of suppl seems, therefore, worth publicizing.

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COUNCIL ON INDUSTRIAL HEALTH

This report is endorsed by the Committee on Occupational Dermatoses of the Council on Industrial Health. The Council has approved publication.

C. M. PETERSON, M.D., *Secretary.*

CHROMATE HAZARDS IN INDUSTRY

Edmund N. Walsh, M.D., Fort Worth, Texas

The element chronium was identified in 1797. Within 30 years, chromium compounds were mentioned in the medical literature as a cause of ulcerations and dermatitis in the workers who used them.[1] Today chromium and its salts are widely used in industry and are being used in ever-increasing amounts. The purpose of this paper is to mention some of the important industrial uses of chromium and to discuss the medical problems of its use, particularly chromate dermatitis.

Chromium and its compounds are obtained from chromite ore, which is a mixture of iron and chromium oxides. It is a gray metal, with a melting point of 1,890 C and great resistance to corrosion. It has valences of 2, 3, and 6 and forms both chromium salts and chromates. The bivalent chromous salts are unstable and of no commercial importance. Chromic oxide (Cr_2O_3), a green pigment, and chromic sulfate ($Cr_2[SO_4]_3$), which is used in tanning, are trivalent chromium compounds. The hexavalent compounds, such as sodium dichromate ($Na_2Cr_2O_7$), are the most active chemically and the most widely used. They probably are the only forms that pose any problem from an industrial health standpoint.

COMMON USES IN INDUSTRY

The following paragraphs consist of a brief discussion of some of the commoner uses of chromium compounds in industry and the various medical complications, such as systemic intoxication, perforated septum, chrome ulcer, and dermatitis, that may arise during such use. These medical aspects, particularly the dermatoses, will be considered in detail later.

Chromium plating for decorative and anticorrosive coatings is an electrolytic process in which metallic chromium is deposited on the cathode from a solution of 20 to 40% chromic acid contained in an open tank. Hydrogen is liberated at the cathode, and the hydrogen bubbles rising to the surface produce a mist of chromic acid. When this mist is inhaled, it first comes in contact with the mucous membrane of the lower nasal septum, sometimes causing ulceration and later perforation.[2] If concentrated mists reach the lungs, acute pulmonary symptoms may result.[3] Recently, possible chronic hepatic intoxication from prolonged inhalation of these mists has been reported.[4] Contact with the mist or solutions will, of course, also cause dermatitis in sensitive persons or high concentrations may even cause a primary irritation. In large scale operations, such as in plating automobile trim, the procedures are almost completely automatic, so that few workers are exposed to the acid. Today proper ventilation and exhaust ducts minimize the danger in most shops. It is in the smaller plating establishments where protective measures are not strictly enforced that trouble occurs. Workmen handle pieces just removed from the chromic acid solution, and frequently the solution is spilled or dripped on the floor. Sweepings from the floor of one small plating shop contained 10% chromium, which would be equivalent to 20% chromic acid. Most workers in the plating industry are familiar with the chrome sore, perforated nasal septum, and chromate dermatitis, and few even consult a physician about the first two conditions. If a chromate dermatitis develops, however, the worker usually must leave the trade, since complete avoidance of contact is difficult because of the contaminated work area.

Anodizing is another electrolytic type of anticorrosive metal treatment, used principally on aluminum. Almost all aluminum airplane parts are so treated. Baths of 5 to 10% chromic acid are used, and the metal to be treated is the anode. An anodic film of aluminum oxide is formed on the metal, which serves as a protective coating in itself or as a base for the application of zinc chromate priming paint. Zinc chromate paint is a common cause of dermatitis in the aircraft industry. The chromic acid mists evolved by the anodizing process are much less concentrated than those formed in chrome plating. Thus, the danger of the occurrence of perforated septum or toxic effects from inhalation is much less, although chrome ulcers and dermatitis have occurred. Other anticorrosive treatments involve only the immersion of metals in baths of various chromate solutions for the formation of anticorrosive films. Dermatitis and possibly chrome ulcers may be encountered but have not been reported in the literature.

In the processing of chromite ore to produce chromium compounds, considerable dust is formed, which contains monochromates and dichromates. While systemic intoxication has not been reported, there seems to be a long-term hazard of carcinoma of the lung from inhalation of this dust.[5] Perforated septums and chrome sores are common in these workers.[6] Dermatitis has been seen infrequently. Dust control measures have been adopted to eliminate the more serious hazard of pulmonary carcinoma.

Despite the fact that the steel and refractory industries use more than 80% of the chromite ore, no instance of dermatitis has been reported among them, since trivalent and metallic chromium apparently are not irritating or sensitizing substances. Chrome steel may contain from 0.5 to 35% chromium. A dermatitis due to chrome steel identification tags has been reported,[7] and chrome-plated metal has been cited as causing chromate dermatitis.[8] These observations were not, however, checked by proper patch testing and are not definitely known to be reactions to metallic chromium or chromate. Refractory grade chromite ore is used to make bricks for the lining of steel furnaces.

Since the early 1930's chromates have been used for the control of corrosion in various types of recirculating water systems. They are so effective in this capacity that their use is standard in diesel railroad locomotives. They are also used in some other internal combustion engines, in refrigeration systems, in the brine in ice plants, and in some air conditioning installations. Their use for the same purpose in oil well mud, gas wells, and pipelines is rather limited at present. The chromates are used in dilute solution in this capacity, in concentrations ranging from 100 to 2,500 ppm (1/10,000 to 1/400), but this concentration is still above the threshold of sensitivity for some persons. Leaks about pumps and couplings may contaminate the whole work area with the chromate solution, and by evaporation more concentrated residues are formed. Dermatitis[9] and possibly chrome ulcers have been reported as complications from this use.

Zinc chromate primer, commonly called "prime," is used as a corrosion-inhibitive paint on most aluminum and magnesium airplane parts after anodizing. With employment in the aircraft industry at a high level once more, workers using this paint probably constitute the largest group currently exposed to chromates. Although the zinc chromate is found in dust in the plant and is sprayed in the form of paint on many of the airplane parts, there has been no report of a perforated septum or systemic reaction among workers in the industry. Dermatitis is frequently seen.[10]

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[1] Cumin, W.: Remarks on the Medicinal Properties of Madar, and on the Effects of Bichromate of Potassium on the Human Body, Edinburgh M. & S. J. **28**: 295, 1827.

[2] Schwartz, L.; Tulipan, L., and Peck, S. M.: Occupational Diseases of the Skin, ed. 2, Philadelphia, Lea & Febiger, 1947.

[3] Meyers, J. B.: Acute Pulmonary Complications Following Inhalation of Chromic Acid Mist: Preliminary Observations of 2 Patients Who Inhaled Massive Amounts of Chromic Acid, Arch. Indust. Hyg. **2**: 742 (Dec.) 1950.

[4] Pascale, L. R., and others: Chromium Intoxication: With Special Reference to Hepatic Injury, J. A. M. A. **149**: 1385 (Aug. 9) 1952.

[5] Machle, W., and Gregorius, F.: Cancer of the Respiratory System in the United States Chromate-Producing Industry, Pub. Health Rep. **63**: 1114 (Aug. 27) 1948.

[6] Edmundson, W. F.: Chrome Ulcers of the Skin and Nasal Septum and Their Relation to Patch Testing, J. Invest. Dermat. **17**: 17 (July) 1951.

[7] Harris, M. C.: Contact Dermatitis Due to Contact with Chrome 17 Per Cent Steel Identification Tags of the United States Navy, J. Allergy **16**: 299 (Nov.) 1945.

[8] Hall, A. F.: Occupational Contact Dermatitis Among Aircraft Workers, J. A. M. A. **125**: 179 (May 20) 1944.

[9] Winston, J. R., and Walsh, E. N.: Chromate Dermatitis in Railroad Employees Working with Diesel Locomotives, J. A. M. A. **147**: 1133 (Nov. 17) 1951.

Chrome tanning as an improvement over vegetable tanning for certain kinds of leather achieved commercial significance about 1900. Trivalent chromic sulfate and in some processes hexavalent sodium dichromate are the materials used. Chrome sores and chromate dermatitis were found early to be an industrial hazard in this field. At present, their incidence has been reduced by protective measures and by the substitution of mechanical for manual handling of the hides where possible. Three-quarters or more of the leather in the United States is tanned by this process. These leathers contain 3.9 to 6.9% chromium as chromic oxide in hide substance, i. e., minus water and fat. Theoretically, when tanning is completed, all this chromium is in trivalent form in close chemical combination with the hide protein. Since apparently trivalent chromium is never sensitizing, the frequent coexistence of dermatitis from shoe leather and hypersensitivity to chromate is difficult to explain. There are several possible explanations: There may occasionally be small amounts of residual chromate that was not reduced during the "two bath" tanning process. Some of the trivalent chromium may be oxidized to chromate during some subsequent processing of the leather. Chromate may be used in the dyeing of some leathers. Finally, there may be some peculiar relationship between shoe leather dermatitis and positive reactions to chromate patch tests, such as has been found in cement eczema.[11] Further studies should be carried out to clarify these points.

Large amounts of chromate are used for wood preservation. The solutions contain chromated zinc chloride, and some exposure of the workers occurs. The wood is impregnated with the chemicals, which may be a hazard for those handling it. There has been no report of dermatitis in this industry or from this material.

In photoengraving, ammonium dichromate is used as a photo sensitizing agent[2] and often is handled rather carelessly. Here again a large part of the shop area may be contaminated to some extent with dried chromate. This material is used for the same purpose in lithography.[2] In blueprinting a bichromate bath is used for fixing the color in the paper. Finished blueprint paper has a small percentage of chromium compound in it and may cause dermatitis. One analysis of this paper showed 0.024% chromium, some of which is in hexavalent form. In all these trades, as in chrome plating, chrome dermatitis is well known, and most workers know of someone who has it or who has had to leave the trade because of it.

Sodium bichromate is used extensively as a mordant or fixative for the dyeing of woolen cloth and fur. A dermatitis from this use has been observed in wool mill workers.

Except for zinc chromate, mentioned previously, the pigments used in paints, inks, rubber, and ceramics, namely, lead and barium chromate and trivalent chromium oxide, are very insoluble and seldom if ever cause dermatitis. These substances may sometimes contain traces of a soluble hexavalent chromate that will cause difficulty in the evaluation of patch tests.

The chief fields in which chromium salts are used extensively have been mentioned. They are also used in the manufacture of dry cell batteries, matches, and explosives, in fur and leather dyeing, in bleaching of fats and oils, and as reagents in the chemical industry. The foregoing discussion is, however, sufficient to indicate that chromate materials are widely used and that physicians should always be alert to the possibility of their being the cause of an occupational dermatosis.

MEDICAL ASPECTS OF CONTACT WITH CHROMATES

The medical aspects of contact with chrome compounds were reported in the literature as early as 1827.[1] Acute toxic reactions rarely occur except from accidental ingestion or the inhalation of concentrated mists such as are formed in electroplating.[8] After ingestion, symptoms usually appear in a few minutes or a few hours and are abdominal pain, vomiting, and diarrhea.[12] Traces of albumin are found in the urine. Toxic changes in the kidneys and the liver have been described.[13] Most patients have recovered without sequelae.

Inhalation of concentrated mists causes pulmonary congestion, with fever, cough, and production of sputum.[8] Productive cough may persist for as long as one year. The occurrence of toxic hepatitis, with jaundice and severe liver damage, has recently been reported in one worker and evidence of mild hepatic dysfunction in three others in the same group who were exposed over long periods to mists from a plating tank.[4] Excretion of chromium in the urine could be demonstrated in these patients.

Inhalation of chromate-containing dust by workers in ore processing plants over long periods (15 years) seems to have a carcinogenic effect on the lung. Pulmonary carcinoma occurred 16 times more frequently in these workers than in comparable groups.[5] While the series was not large, the figures are apparently significant. Similar observations have not been reported from any other industry in which chromate is used.

CHROME ULCER AND PERFORATED SEPTUM

Other types of lesions that are of more interest to the dermatologist are the chrome ulcer and perforation of the nasal septum. Perforation of the nasal septum obviously can occur only in shops in which there are mists or dusts containing chromate. First, a painless ulcer appears on the lower cartilaginous portion of the nasal septum. In as short a time as one to two months a perforation may develop. These lesions usually cause little or no discomfort, and the patients seldom consult their physician about them. Edmundson found 61% of 285 workers in a primary chromium chemical manufacturing plant to have perforated septums.[6]

Chrome ulcers are well known in the tanning, electroplating, and chroium-chemical-producing industries. They form only when the chromate is introduced into a break in the epidermis. Thus while the hands and arms are the commonest sites, the ulcers may occur anywhere on the body. In the aforementioned chemical plant, 69.5% of the workers had chrome ulcers or scars of such ulcers.[6] The typical ulcer has definite characteristics. It is a punched out lesion, 2 to 5 mm. in diameter, with a raised collar-like indurated border several millimeters wide. It tends to take the shape of the preceding break in the skin. There is minimal inflammation, and the lesions are relatively painless, except when near a joint or subject to trauma. They usually heal, leaving a depressed atrophic scar, although hypertrophic scarring has been seen. No instance of malignant degeneration has been reported in a chrome ulcer or in a septal perforation. There apparently is no increased tendency on the part of workers in whom these lesions develop to become sensitized to chromates.[6] No reports were found in the literature on the amount of exposure or the concentration of chromate needed to produce an ulcer. The simple tests reported in the table give some information on these questions. All tests were made by the usual patch test technique, except that the materials were placed on scratches about 2 mm. long that were made with a knife point inserted just deep enough to draw blood. These observations suggest that very low concentrations of chromate may, under the proper conditions of time and contact, produce ulceration. The ulcers apparently are due to a toxic, necrotizing action of the chromate ion on living tissue, independent of its sensitizing properties. There was no allergic reaction or primary irritation with 0.5% dichromate on intact epithelium in the patient on whom the tests were done. At the higher dilutions, the acidity or alkalinity of the solution could not be responsible. It is interesting to note that solutions of the monochromate salts of sodium and potassium are alkaline in reaction but that the dichromate salts are acid, yet they act identically in the production of an ulcer or dermatitis.

CHROMATE DERMATITIS

The sensitization to chromate compounds that results in dermatitis is of great importance to industry and to dermatologists. It is difficult to judge from the literature how great the hazard is. It has been reported that as many as 25% of

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10. (*a*) Hall.[8] (*b*) Ellis, F. A.: Occupational Dermatoses in Aircraft Workers: Chromate Dermatitis, Occup. Med. **2**: 452 (Nov) 1946.

11. Jaeger, H., and Pelloni, E.: Epicutaneous Tests to Bichromates, Positive in Cement Eczema, Dermatologica **100**: 207, 1950.

12. Goldman, M., and Karotkin, R. H.: Acute Potassium Bichromate Poisoning, Am. J. M. Sc. **189**: 400 (March) 1935.

13. Pascale.[4] Goldman and Karotkin.[12] Smith, A. R.: Chrome Poisoning with Manifestations of Sensitization: Report of a Case, J. A. M. A. **97**: 95 (July 11) 1931.

workers exposed to chromate in a lithographing plant had chromate dermatitis during the first year.[14] This incidence is certainly higher than that in any other group studied. Schwartz and Dunn found that 4% of workers who maintained an air conditioning installation in which chromate was used in the circulating fluid had positive reactions to 3% dichromate in patch tests; however, not all of the reactors had dermatitis. From the data in Hall's paper, "Occupational Contact Dermatitis Among Aircraft Workers,"[8] it would seem that in 5 to 6 workers out of every thousand a chromate dermatitis due to zinc chromate primer paint develops each year. Ellis, in a similar group, estimated the incidence at about one per thousand per year.[10b] Rough estimates of sensitivity made from data from another large aircraft factory that has about 12,000 workers in contact with the same material agree with Hall's findings. In a small group of diesel locomotive workers that I studied the rate was about 10 per thousand per year, or 1%.[9] It would seem from the above that the probable limits of incidence of dermatitis in any large group of persons exposed to hexavalent compounds will be between 1 and 10 per thousand per year. This will probably vary greatly with the type of exposure and the turnover of employees.

It would be well here to amplify and substantiate as far as possible the statement made several times in the paper that only the hexavalent chromate ion is a sensitizer and that metallic chromium or the trivalent compounds are not sensitizing substances. There were no reports in the literature examined suggesting that a hypersensitivity reaction to trivalent chromium occurs. The one report of reaction to metallic chromium[7] was not proved by proper patch testing and may well have been a reaction to nickel. Several dermatologists of wide experience in industrial dermatology and cutaneous allergy stated that they knew of no report or instance of reaction to trivalent chromium. Three patients were tested who had positive patch tests to very weak solutions of bichromate (1/10,000 and 1/20,000) showed no reactions to solutions of trivalent salts[11] nor to metallic chromium. Three-fourths of all shoes are made with chrome-tanned leather containing 3 to 6% trivalent chromium. The wearing of shoes made from this leather is, in effect, a mass patch test to trivalent chromium. No instance of sensitization has ever been reported. These facts give a substantial basis for the assumption that sensitization to trivalent chromium or metallic chromium does not occur.

There is little in the literature regarding the incidence of chromate sensitivity in the general population. In a group of eczema patients 12% were found to have positive patch tests for chromate. In a group of patients with other dermatoses 5% had positive reactions.[14] Among 60 patients in a tuberculosis sanitarium, I found three with a definite positive reaction to 1% postassium dichromate. This is about a 5% incidence of definite positive reactions. Only two, or 3½%, gave a definite reaction to 0.5% dichromate. In another group of 60 hospital patients tested with 0.25% dichromate there were no positive reactions. These groups are all too small to be statistically significant but it would appear that there is a higher incidence of positive patch tests to 0.5% or 1% dichromate in the general population than of dermatitis in industrial workers exposed to chromate. Perhaps 0.25% dichromate would be a better test dilution to demonstrate the more marked degrees of hypersensitivity.

Little is known of the factors influencing sensitization. The concentration of the material seems to play little part. It would seem likely that there would be a high incidence of sensitization among the workers in the chromium-chemical-producing plant who had the high incidence of ulcers and perforated septums and who obviously were often exposed to heavy concentrations of chromate. Edmundson found only 2 of 56 of these workers with ulcers or septal perforations who had a positive 24-hour patch test to 0.5% sodium dichromate.[6] These two gave a history of dermatitis but did not have it at the time of examination. This represents only 3.5% of the group, or about the same incidence that was found in the previously mentioned sanitarium patients who were tested with the same material. This is a higher incidence than was found in the other industrial groups, but again these groups are too small for an accurate evaluation. Some investigators in this field feel that dilute solutions are more likely to sensitize.

An interesting work was recently reported in Switzerland by Jaeger and Pelloni, who found that 30 of 32 patients, or 94%, with cement eczema had a positive patch test to 0.5% dichromate. Traces of chromium were demonstrated in several samples of cement that were tested. The type of chromium found was not mentioned, and no explanation of this peculiar clinical finding was advanced.[11]

Only general statements can be made about the effect of the duration of exposure on sensitization. Most men seem to agree that the great majority of exposed workers who will develop a sensitivity do so during the first nine months they work with chromate.[14] However, dermatitis may appear in one week or not until after as long as nine years of exposure. A most important point is that sensitization does not increase in proportion to the duration of exposure.

The reaction threshold of those sensitive to chromate may be very low. One patient with a shoe leather dermatitis reacted to a 1:20,000 solution of sodium dichromate. For routine patch testing, 0.5% dichromate is the recommended strength. Ellis felt that this strength might give questionable or negative reactions[10b] and suggested a 5% chromate solution. As mentioned above, 0.25% may give a more accurate test of hypersensitivty. When a high degree of sensitivity is suspected, a 0.05% solution should be used as a first test and even this may give a 3+ reaction. Delayed positive reactions that do not appear for 24 to 48 hours after the test period are sometimes seen and should be routinely watched for.

Results of Patch Tests with Various Concentrations of Chromium Compounds Applied to Superficial Skin Abrasions

Material	Length of Exposure	Reaction			
Chromic acid, 2%	24 hours	Crusted lesion 3 weeks			
Sodium dichromate, 0.5%	Reapplied daily 3 days	Crusted lesion 3 weeks			
		3 days	1 week	2 weeks	3 weeks
Potassium chromate, 0.5%	8 hours a day for 3 days	3*	2	1	1
Sodium dichromate, 0.05%	8 hours a day for 3 days	2	1	0	0
Sodium dichromate, 0.005%	8 hours a day for 3 days	1	1	0	0
Zinc chromate, pure	8 hours a day for 3 days	1	0	0	0
Lead chromate, pure (insoluble)	8 hours a day for 3 days	0	0	0	0
Chromic nitrate, 10% (trivalent)	Reapplied daily 3 days	±	0	0	0

* These numbers indicate roughly the size of the ulcer and the duration of a crusted lesion. Thus "3" represents a shallow crusted lesion 2 by 4 mm. in size, "2" a lesion 1.5 by 3 mm., and "1" a lesion 1 by 2 mm. The ± indicates redness in the area of the scratch but no ulceration.

The question of preemployment patch testing is a controversial one. Such tests would not demonstrate those who will become sensitive after several months of exposure. However, it seems that in such industries as the aircraft and railroad diesel shops preemployment patch testing might be of benefit in pointing out some potential dermatitis patients and would reveal a few who could not tolerate even minimal exposure. The danger of sensitization developing from a 48 hour patch test seems rather remote, judging from the usual history of the dermatitis appearing after several weeks or months of contact. Certainly information obtained from a large series of preemployment patch tests concerning the significance of negative, questionable, and positive reactions as compared to the working exposure to chromate compounds would be very worth while. Further, more careful observations on factors of time and intensity of exposure relative to sensitization would be valuable.

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14. Engelhardt, W. E., and Mayer, R. L., cited by Pirilä, V., and Kilpiö, O.: On Dermatoses Cased by Bichromates, Acta dermat-venereol. 29: 550, 1949.

CLINICAL CHARACTERISTICS

Morphologically chromate dermatitis varies from an acute vesicular weeping eruption, to dry, erythematous, slightly elevated squamous plaques that may be rather well circumscribed with normal skin between. Sometimes grouped papular lesions are seen. The commonest sites are the dorsum of the hands, wrists, and forearms. The neck and eyelids may be affected or any other part with which the chromate comes in contact. While there are no specific morphological characteristics, in a plant where these eruptions are frequently seen they are soon spotted as an entity.

Acute or minimal eruptions may heal in two to three weeks. The dry patchy eczematous eruptions may be very slow to heal, lasting sometimes six weeks to six months even after the patient is removed from all contact with the material. This is particularly true if the eruption is of several months' duration or if it is a second or third exposure. Chromate dermatitis often differs from the usual contact dermatitis in its patchy distribution and longer course.

TREATMENT AND PROPHYLAXIS OF *CHROMATE DERMATITIS*

Early detection of chromate dermatitis is of utmost importance if prolonged disability is to be avoided. There is apparently no "hardening" or increased tolerance of workers on further exposure to chromate, at least not after a sensitivity dermatitis has developed. On the contrary, with subsequent exposure each attack seems to be severer and more extended. As mentioned above, however, the likelihood of sensitization does not seem to increase with the duration or intensity of exposure.

Treatment should consist of wet dressings when indicated and bland local applications. In stubborn cases x-ray treatment will probably hasten healing. Dimercaprol (BAL) in a 3% ointment has been advocated for chromate dermatitis, although the evidence of its effectiveness is not very striking.[15] Injections of dimercaprol seemed to have little effect on the eruption of one patient on whom it was used.[9]

The problem of prevention or control of chromate dermatitis is of utmost importance. Where dust, mists or sprays are encountered, proper ventilation, plant cleanliness, exhaust fans, and ducts, protective clothing, and masks are indicated. Where chromate powder and solutions are used, these measures and particularly careful handling to prevent contamination of the work area are important.

Workers handling chromate should be provided with proper protective clothing such as rubber gloves and aprons when it is feasible. Facilities for immediate cleansing should be provided for workers who must come in contact with concentrated chrome compounds. Contaminated areas should be thoroughly washed down and cleansed before men work in them. Equipment should be designed to facilitate the handling and to prevent or minimize the leakage of the solutions.

The workers should be told something of the potentially harmful nature of the substance with which they are working, and the extent of the danger, which actually is not great, should be explained. Otherwise exaggerated stories of the hazard soon spread through the plant and the whole industry, for example, the stories of the so-called prime poison in the aircraft industry and diesel itch in the railroad industry. Workers should be impressed with the importance of reporting for examination at the first appearance of an eruption. It can then be determined by patch testing whether or not chromate is the offending substance. If the sensitivity is not severe, the worker may attempt to resume work with extra precautionary measures. If the dermatitis then recurs, he should immediately be removed from contact with the material.

Chrome compounds present a relatively small industrial hazard even in the industries where they are used. If the danger is recognized and suitable precautionary measures are taken, they can be safely used wherever such use is indicated.

SUMMARY

Chromium in metallic form and in its trivalent and hexavalent forms is important in many manufacturing and industrial processes. Some of these are electroplating, anodizing and other anticorrosive metal treatments, tanning of leath pigments and anticorrosive paints, mordanting of wool, fu and leather, and photoengraving and lithography.

Workers come in contact with chromates in the form mist or dust that is inhaled and in solution or solid for Inhalation may produce acute pulmonary symptoms or chron hepatic intoxication; in some rare instances of long exposu to dust, carcinoma of the lung is apparently produced. Pe foration of the lower nasal septum may result from inhal tion of mists or dust. Chrome ulcer is produced by conta of the material with an abrasion or any break in the epiderm

Dermatitis due to contact of chromate-sensitive perso with these substances is the most important of the industr hazards encountered. Apparently only the hexavalent co pounds are sensitizing. The incidence of such sensitivity a the factors influencing its production are discussed.

Chromate dermatitis is often patchy in distribution a more prolonged in its course than the usual contact dermati Prophylactic measures include protective clothing, proper signing of machinery, and industrial engineering to reduce to prevent contact with the material and contamination work areas. Education of the workers as to the nature the danger and the early detection, investigation, and mana ment of any eruption that occurs are of great importance.

1810 Medical Arts Bldg. (2).

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15. Cole, H. N., Jr.: Use of Dimercaprol (BAL) Ointment in Chro Chrome Dermatitis, A. M. A. Arch. Dermat. & Syph. 67: 30 (Jan.) 19

MEDICAL MOTION PICTURES

NEW FILM ADDED TO A. M. A. MOTION PICTURE LIBRARY

Principles of Fracture Reduction: 16 mm., color, sound, showing t 30 minutes. Produced in 1953 by Churchill-Wexler Productions, Angeles, for the Veterans Administration. Procurable on loan (ser charge $3.00) from Committee on Medical Motion Pictures, Ameri Medical Association, 535 North Dearborn Street, Chicago 10.

This film presents first, the cardinal principles for clo reduction of fractures employing well-executed anima drawings. Then, using both patients and models, it illustra the application of these principles as they apply to the spli ing of fractures both in first aid and in treatment. The of splints, traction, and plaster of Paris is well illustrated, well as the manipulation of several simulated fractures us local anesthesia and various methods of improvised tracti to facilitate the manipulative reduction. Some of the mani lations using improvised traction are shown by model in farm house situation where it was impossible to obtain p liminary roentgenograms. Although this may at times necessary, wherever possible, manipulation and reducti should be deferred until roentgenologic study is possible. a teaching film it seems unfortunate that this point is stressed. The photography, animation, and narration are high quality. In the last section the use of the model se previously makes the film slightly less realistic and less teresting than it might have been, but this is not a serio fault. On the whole, the film is excellent and should pro of value to both medical students and practicing physicia It probably represents the best elementary film now availa on this subject.

Fred Bauer Waits: 16 mm., black and white, sound, showing time minutes. Produced in 1952 by Victor Weingarten, New York, for, a procurable on loan or purchase ($45.00) from, Health Information Found tion, 420 Lexington Ave., New York 17.

The primary purpose of this film is to convince nonmedic persons that early diagnosis and treatment of vague illne prevents considerable worry, emotional dislocation of famil feeling of insecurity in children, and prolonged treatme when diagnosis is ultimately made. The father of the fami suffers a complex of symptoms that he mistakenly thinks cancer and, because of that attempt at self-diagnosis, delays treatment until his diabetes is far enough advanced to be very troublesome to him, and very disturbing to his family. His preoccupation with the idea that he has cancer is ultimately picked up by the family, causing even the children to exhibit the insecurity associated with the possible loss of a parent. When his diabetes is discovered and when he is under adequate treatment, the family troubles disappear and normal family relationships are resumed.

The developing symptoms of diabetes are quite obvious, but, through the confusion of some of these symptoms with the keys to cancer detection, the father is led to a false diagnosis of his condition. This situation dramatically points out the dangers inherent in self diagnosis by a nonmedical person. This film would be most suitable for adult groups. With proper presentation by a well-prepared instructor, it could be used in the 11th and 12th grades. The photographic quality of this motion picture is excellent. The sound quality, however, is below average.

BUREAU OF LEGAL MEDICINE AND LEGISLATION

MEDICOLEGAL ABSTRACTS

Practice of Healing Art Not Interstate Commerce.—This was an action for damages for an alleged violation of the Sherman Anti-Trust Act. From a judgment in favor of the defendants, the plaintiff appealed to the United States court of appeals, tenth circuit.

The plaintiff, a chiropractic institution, filed a suit for damages against the medical society of the city and county of Denver; a number of present and former members of the state board of health; a number of former and present officials of the medical society; and a number of individuals, alleging, among other things, that the defendants combined and conspired to prevent the licensing of the plaintiff institution by the proper authorities of the state of Colorado to prevent the operation and maintenance of such institution and to allocate to the members of the medical profession within the state of Colorado the entire practice of the healing arts within that state, to the exclusion and restraint of the practice of chiropractic. The defendants moved to dismiss the action on the ground that it did not state a claim on which relief could be granted, and the motion was sustained, hence this appeal.

The practice of the healing arts in Colorado, including chiropractic, is wholly local in character, said the court of appeals. The alleged conspiracy and the acts alleged to have been done in furtherance thereof had for their purpose and object the monopolization and restraint of purely local activities. No price fixing or price maintenance for professional or other services was involved. There was no intent to injure, obstruct, or restrain interstate or foreign commerce. The mere fact that a fortuitous and incidental effect of such conspiracy and acts may be to reduce the number of persons who will come from other states and countries to the Spears Hospital for chiropractic treatments does not create such a relation between interstate and foreign commerce and such local activities as to make them a part of such commerce. To come within the purview of the Sherman Act, the restraint of commerce or the obstruction of commerce must be direct and substantial and not merely incidental or remote. The conspiracy or combination must be aimed or directed at the kind of restraint that the Act prohibits, or such restraint must be the natural and probable consequence of the conspiracy. Where, however, the object and purpose is to restrain or monopolize activities or matters purely local in character, those facts may be considered in determining whether the effect on interstate or foreign commerce is direct and substantial or only incidental, indirect, and remote. Here, the court said, the purpose and object of the conspiracy and of the means adopted to effectuate it were to restrain the practice of chiropractic and to allocate to the medical profession the practice of the healing arts in Colorado. It is this exclusively local aim and *not the fortuitous* and incidental effect upon interstate and foreign commerce that gives character to the conspiracy. The effect upon interstate and foreign commerce was fortuitous and remote and not direct and substantial. We conclude, therefore, *said the court,* that in the instant case there was no direct, immediate, or substantial effect on interstate or foreign commerce bringing the alleged conspiracy within the scope of the Sherman Act.

The court of appeals specifically stated, however, that it was unnecessary to pass upon the question of whether the practice of the healing arts, including chiropractic, is trade or commerce within the meaning of the Sherman Anti-Trust Act. Accordingly the judgment of the trial court sustaining the defendants' motion for dismissal was affirmed. *Spears Free Clinic and Hospital v. Cleere, et al., 197 F. (2d) 125 (1952).*

BUSINESS PRACTICE

The following material is based on a public relations manual issued by the Public Relations Department of the American Medical Association.—Ed.

ADJUSTMENT OF FEES

No person needs to go without medical care in this country because he is unable to pay for it. Every day, physicians provide care for persons who, for good reasons, are financially unable to meet their medical bills. If people complain that medical care is unavailable to those without funds, it is becaues they are unaware that each year physicians quietly and modestly give millions of dollars worth of free medical care. Many medical societies have made public their willingness to provide medical care to anyone who cannot pay for it. These programs are meeting with good public relations effects, but the task of deciding whether to reduce a fee or cancel it entirely in a hardship case falls to the doctor.

There are two prevailing philosophies on this question. One belief is that a doctor should reduce his fee but not cancel it, in order to save the patient's pride. The man who pays a small sum toward his expenses does not feel like a charity patient. The second philosophy is that a doctor should never reduce but completely cancel a fee if necessary. This evolves from the thought that a doctor should not bargain with his patients about charges. The inherent dangers in too readily reducing or canceling medical fees are that it encourages the irresponsible persons who believe the world owes them a living and it smooths the way for the cheats who dress up in shabby clothes when they come to the doctor to give the impression they are unable to pay for their medical care. Although the poverty of a patient should command the gratuitous services of a physician, it is difficult for a physician practicing in a large city to know whether a patient can pay for care. Patients must be educated to discuss their financial problems with their doctor before contracting for care.

Here are some suggestions to guide a physician in deciding whether a fee should be reduced or canceled. First, he should try to get adequate information about the patient's financial status. It is important to encourage advance fee discussions. Secondly, when a patient requests a lowered fee, he should investigate locally to learn whether the person is truly needy. If it is possible to determine if a needy patient is eligible under local and state public assistance programs, the physician can put him in contact with these groups. Thirdly, when referring patients to another physician, it is helpful to send financial information. And, finally, he should make financial arrangements that best serve the interests of the patient.

Sometimes the generosity of a physician backfires. It is dangerous to reduce a fee for an operation that the patient did not survive. This implies negligence or incompetence on the part of the physician and could form the basis for a malpractice suit. In such cases, it is better to submit a bill for the amount originally agreed on. Most patients are anxious to pay their own way. The physician often can settle the fee problem by following the directives of his heart.

THE LEISURE CORNER

MODEL RAILROADING: A FATHER-AND-SON HOBBY

As the Yuletide season approaches, many readers of the "Leisure Corner" will, as the result of ardent petitions advanced by a wide-eyed, mechanically-minded younger generation, undoubtedly find that model railroading also has an equally strong fascination for them. Interest in model scale railroading as a popular father-and-son hobby is a phenomenon based partly on a mutually shared interest that first takes root in early childhood and that later expands during adulthood. Dyed-in-the-wool participants are convinced that the hobby affords an assortment of challenges to the combined aptitudes and ingenuities of the two generations. Actually, the creation of a model railroad is an expression of ability to create, plan, and perform, and this is soon made evident in the need for painting, assembling, carving, bending, soldering, molding, drilling, and sawing. No two model railroads are similar, and that is one of the reasons why model scale railroading is a hobby with such widespread appeal to young and old alike.

The imagination of father-and-son model railroaders will channel their energies into any one of dozens of intriguing construction situations—from the building of a simple railroad to a complicated system with elaborate signals; junctions with three tracks branching out of four; lighting arrangements that produce effects of daylight and nighttime or thunderstorms and sunsets; and create brightly colored passenger trains and lengthy freight trains, which traverse make-believe countrysides interspersed with towns, valleys, and mountain ranges. Perhaps wistful memories of a childhood spent in a peaceful pre-World War I era will influence the physician-father in his decision, and, in that case, circus trains with special equipment and gay colors will fascinate the two generations of model train magnates. Again, a model railroad need not necessarily represent the latest form of twentieth century transportation; for some hobbyists, broad-stacked, brightly ornamented eight-wheeled engines with polished brass trimmings and huge headlights hold definite appeal. On the other hand, if the senior-and-junior railroaders are enchanted by rural life or teeming industrial environs, small towns, fishing villages, mountain resorts, freight yards, oil wells, quarries, or even steel mills these, too, can be incorporated in a model railroad system. The point is that model railroading permits the imagination to run riot, enabling father and son to pursue their own individual bents and, at the same time, serving up heaping doses of that contented feeling.

Model railroading provides its devotees with sugar-coated training in a half-dozen useful crafts. As most hobbyists quickly learn, newcomers will often find themselves unfamiliar with the numerous techniques characteristic of this mechanical hobby. However, they soon become proficient in drilling and tapping holes and in working with sheet metal and fragile wood; they soon learn a little about soldering and about how dies and patterns are made; something about electrical intricacies and how to differentiate a weak joint from a well-engineered joint; and how to distinguish between a well-made mechanism and a shoddy mechanism. Hobbyists will frequently be surprised to discover a newly acquired dexterity in the use of their hands, so that tasks once regarded as being impossible to perform turn out to be simple, routine matters. This, of course, is not to imply that an apprenticeship in model railroading will convert physicians and their offspring into qualified mechanical engineers; but the abilities that are acquired while in pursuit of the hobby will make its participants more useful persons to have around the house or home. At least, the wife and mother of the household may eventually find this to be the case.

Nearly all model railroads grow piecemeal, usually starting with the assembly of a rolling stock from a kit and later adding several cars and a locomotive, as the track plan takes shape in the minds of the builders. Gradually, more and more models are accumulated, first for an entire train, then for two trains. When this stage is reached, the hobby begins to multiply in its manifold possibilities, for a minimum of two trains enable hobbyists to operate train service on a model railroad in a realistic manner. And as the model railroading venture grows, there is always the strong possibility that other members of the family—and this includes mother and the younger sisters—will interest themselves in the hobby. It has been claimed that few hobbies succeed in bringing teen-agers back into the family group as effectively as model railroading; and, indeed, the most desirable scenic effects have often been created by enthusiastic mothers of the household.

In order to eliminate stooping on the part of the older hobbyists, almost all scale model railroads are now constructed away from the floor. Wood is used for the supporting frames, and track is usually laid on flat strips of wood so that it can be unscrewed at will when changes are contemplated. Scenic terrain is composed of plaster or some other moldable material spread over a lath of wire screen or cloth; buildings generally consist of wood or cardboard; locomotives are constructed of metal; and cars are made either of metal, wood, or plastic. The trend among model railroad hobbyists is to build cars and engines from kits that contain every construction part required. Recent growth of interest in scale model railroads is partly indebted to the toy train field. Scale modelers speak of toy trains as "tinplate," many model rail systems being derived from a Lionel, American Flyer, or Marx Christmas train set. In reality, scale model railroading is not as suitable a hobby for very young boys as is the tinplate train, but as the youngsters become teen-agers, the skills and crafts associated with scale model railroading provide a distinct advantage.

The principal difference between finished tinplate and scale equipment lies in the track. Tinplate track is constructed in sections that can easily be taken apart; on the other hand, in scale track the proportions are more accurate, the curves are broader, and the track can be made to serve in a more permanent form. Tinplate passenger trains are built to be undersized and short, so that they can readily traverse the sharp curves inherent in sectional track. Tinplate trains employ a sequence reverse, and the motors operate on alternating current derived from a transformer. Scale trains utilize an improved reverse scheme that depends on direct current coming from a power pack. A transformer cannot be used unless a rectifier is employed to convert it into a power pack. Scale model railroads usually have two running rails for electric power distribution. When a third rail is desired, scale model railroaders locate it to either side of the track. Although track is very easy to lay, the beginner can be fooled. It is therefore a good idea to first build a small test yard before commencing construction of a more permanent type of railroad system. In model railroading it is important to have every part of the model railroad truly proportional to every other part. Passenger cars on a real railroad are generally twice as long as box cars, as they are in properly proportioned scale railroads.

Today there are four scales for which a variety of equipment is available. Model railroaders usually identify them by letter for each gauge of track—O, S, HO, and TT. Gauge is defined as the distance between inside rail faces of the track; standard gauge is 4 ft. 8½ in., and, in modeling standard gauge equipment, the scale should properly relate the track and cars. Scale is the ratio of size the models bear to the original and is usually stated in terms of fractions of inches or millimeters in the model to 1 foot in the original. Gauge O has proved to be the favorite type of gauge for many hobbyists who want detail in cars and locomotives. HO gauge is about half the size of O gauge, and OO is a little more than half the size of HO. O gauge cars cost approximately twice as much as HO equipment; engines range anywhere from 25% to 75% more in price. If there is any uncertainty about which gauge is best to buy, it might be well to experiment with a car kit and a limited amount of track material in each gauge. When the cars and track are assembled, it is soon possible to obtain a clear notion about construction preferences. Once this is determined, model scale railroading is well on its way to becoming an enjoyable, lifelong hobby.

MEDICAL LITERATURE ABSTRACTS

UNITED STATES

A.M.A. Arch. Ind. Hyg. & Occupat. Med. Chicago

8:205-298 (Sept.) 1953

Chronic Bronchopulmonary Disease Due to Inhalation of Sulfuric Acid Fumes. A. Goldman and W. T. Hill.—p. 205.
Current Lines of Attack on Smoke Problem in Britain. P. C. G. Isaac. —p. 212.
Chronic *Oral Toxicity of Di (2-Ethylhexyl)* Phthalate for Rats, Guinea Pigs, and Dogs. C. P. Carpenter, C. S. Weil and H. F. Smyth Jr. —p. 219.
Tetrachlorethylene Exposure in Small Industry. H. R. Coler and H. R. Rossmiller.—p. 227.
Dust Counting by Most Probable Number Method. H. M. Chapman. —p. 234.
Motivating Employees for Industrial Health. H. K. Abrams.—p. 246.
Physical Basis of Hearing Damage and Tentative Damage Risk Criterion for *Steady-State Noise. H. C. Hardy.—p. 250.*
Effect of Diet on Susceptibility of Rat to Poisoning by 2,4-Dinitrotoluene. M. E. Shils and L. J. Goldwater.—p. 262
Toxicity of 2-Ethylhexyl Diphenyl Phosphate: II. Metabolic Fate in Man and Animals. J. F. Treon, J. Cappel and H. Sigmon.—p. 268.
Id.: III. Studies of Extraction of Santicizer 141 from *Polyvinyl Chloride* Films by Foodstuffs Under Various Conditions of Storage. J. C. Kaskie.—p. 281.
Id.: IV. Skin Sensitization Studies of Santicizer 141. L. K. Halpern and R. S. Weiss.—p. 284.
Small Chamber for Studying Test Atmospheres. C. J. Spiegl, L. J. Leach, K. E. Lauterbach and others.—p. 286.
Chronic Oral Toxicity of Ethyl Phthalyl Ethyl Glycolate in Rats and Dogs. H. C. Hodge, E. A. Maynard, H. J. Blanchet Jr. and others. —p. 289.

Alabama State Medical Assn. Journal, Montgomery

23:59-90 (Sept.) 1953

*Intraveonus Anesthesia for Obstetrical Delivery. E. Rucker.—p. 59.
Outpatient Treatment of Hypertension with Hexamethonium and Apresoline. W. P. Galen and L. L. Johnson.—p. 64.
*Pheochromocytoma: Report of Case in Nine Year Old Negro Male. P. M. Goldfarb.—p. 70.
Hypersensitivity to Gamma Globulin: Case Report. W. J. B. Owings. —p. 74.

Intravenous Anesthesia for Obstetrical Delivery.—Thiopental (Pentothal) sodium intravenously, combined with procaine infiltration of the abdominal wall, was used as method of anesthesia in 90 cases of cesarean section. There were no maternal deaths. The effect on the infant was minimal. Most of the babies breathed as soon as the nose and mouth were cleared by suction. Oxygen under pressure was used in a few cases in which there was some depression of the baby's respiration. The same type of anesthesia was employed in 179 women for ligation of the fallopian tubes in the puerperium as a method of sterilization. Thiopental sodium was used as the anesthetic agent for 473 patients who underwent minor procedures, such as curettage of the uterus, incision and drainage of abscess of Bartholin's gland, removal of secundines, and biopsy and cauterization of the cervix. Thiopental sodium is satisfactory for short procedures. In combination with procaine infiltration of the abdominal wall, thiopental is an effective anesthetic for cesarean section and puerperal sterilization. Pentobarbital (Nembutal) sodium in combination with meperidine (Demerol) hydrochloride and scopolamine (Hyoscine) was used for vaginal delivery in 6,257 patients; 100 mg. of meperidine and 0.6 mg. of scopolamine intramuscularly in combination with 200 mg. of pentobarbital sodium orally were given as soon as the patient's labor became uncomfortable, with little regard to cervical dilatation. Pentobarbital sodium was given intravenously when the previous procedure was no longer sufficient to make the patient comfortable. Pentobarbital sodium was supplemented by scopolamine in 0.3 mg. doses intramuscularly each two to three hours as indicated, and by a second or third intravenous injection of pentobarbital sodium varying from 200 to 350 mg., depending on the patient's response. Additional anesthesia was generally needed when the cervix was fully dilated. This was obtained by additional pentobarbital sodium intravenously, or by additional meperidine hydrochloride intravenously in doses of 100 mg. The author was more inclined to use meperidine hydrochloride than additional pentobarbital sodium for delivery, if the total dose of pentobarbital sodium was near 1,000 mg. Pentobarbital sodium intravenously combined with scopolamine, meperidine hydrochloride, and pudendal nerve block proved to be an effective way of controlling pain for vaginal delivery. The use of pentobarbital sodium seems to be contraindicated in patients in whom there is any impaired function of the liver. There is no one intravenous anesthetic agent that is entirely satisfactory in obstetrics; but by combining several drugs and varying the dosage it is possible to obtain satisfactory analgesia and anesthesia for the first and second stages of labor without unduly affecting the baby.

Pheochromocytoma.—A case of bilateral, malignant pheochromocytoma with hypertension is described in a 9-year-old Negro boy. Severe constipation was the outstanding symptom. *It was so severe that it was impossible to perform any of the* tests for detection of a pheochromocytoma. The constipation ultimately produced all the signs and symptoms of intestinal obstruction. Enemas gave poor results but produced an outpouring of epinephrine which increased the constipation as well as the strain on the heart and this eventually led to congestive heart failure. Weakness and sweating were prominent symptoms. The presenting symptoms were varied in 14 other cases of pheochromocytoma in children collected from the literature. Excessive sweating was prominent in nine patients. Severe constipation was not described in any of the *14 patients, and paroxysmal hypertension was described in* only one. Pheochromocytoma should be considered in the differential diagnosis in all cases of hypertension in both children and adults.

American Journal of Medicine, New York

15:281-438 (Sept.) 1953

Metabolic Studies on the Human Heart in Vivo: I. Studies on Carbohydrate Metabolism of the Human Heart. R. J. Bing, A. Siegel, A. Vitale, F. Balboni, E. Sparks, M. Taeschler, M. Klapper and S. Edwards.—p. 284.
Postural Effects in Tetralogy of Fallot. P. R. Lurie.—p. 297.
Venous Blood Flow During Valsalva Experiment Including Some Clinical Applications. S. Candel and D. E. Ehrlich.—p. 307.
Decreased Hallucal Circulation, Early Manifestation of Vascular Disease in Diabetes Mellitus. M. Mendlowitz, E. B. Grossman and S. Alpert. —p. 316.
Mechanism of Accelerated Peripheral Vascular Sclerosis in Diabetes Mellitus. R. S. Megibow, S. J. Megibow, H. Pollaxk, J. J. Bookman and K. Osserman.—p. 322.
*Nor-epinephrine; Effect in Normal Subjects; Use in Treatment of Shock Unresponsive to Other Measures. J. H. Moyer, J. M. Skelton and L. C. Mills.—p. 330.
*Non-specificity of the Electrocardiogram Associated with Coronary Artery Disease. H. D. Levine.—p. 344.
Bronchomotor Tone: Neglected Factor in Regulation of Pulmonary Circulation. S. Rodbard.—p. 356.
Clinical Problems in Neuromuscular Physiology. D. Denny-Brown. —p. 368.

Arterenol Treatment of Shock.—In cases of shock, blood pressure must be raised before vital organs are damaged by lack of adequate perfusion; administration of fluids is often not adequate to this, and thus cases of "irreversible shock" arise.

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Titles marked with an asterisk (*) are abstracted.

Arterenol is a drug closely related to epinephrine, differing only in the absence of the N-methyl group but having different pharmacological properties in that it is primarily a peripheral vasoconstrictor and has only a minimal stimulant effect on the heart. It is of value in the treatment of shock because (1) it raises blood pressure rapidly, regardless of the cause of hypotension, (2) its effects are easily controlled for obtaining any desired blood pressure response, (3) it is a short-acting agent, and thus avoids the danger of excessive elevation of blood pressure, and (4) its side-effects are minimal. The authors observed the action of the drug in 25 normotensive patients, and in 44 patients in shock, including 14 with myocardial infarction, 9 with overwhelming infection, 6 with excessive hypotension secondary to medication, and 15 in surgical shock. All of the last group had previously failed to respond to adequate fluid replacement and blood transfusions. Results were encouraging: in only two patients of the 44 did the blood pressure fail to rise to normal with arterenol, and 24 patients recovered completely. It was not always possible to reverse postoperative "irreversible shock." The drug proved most useful in severe hypotensive states following the administration of certain drugs to excessively sensitive persons.

Nonspecificity of Electrocardiogram in Coronary Disease.—The shortcomings of electrocardiography are pointed out with a view toward emphasizing caution in interpreting findings and the importance of checking these against clinical evidence. Changes in the T-wave, in the RS-T segment, and in the QRS complex of the electrocardiogram generally reflect, respectively, myocardial ischemia, current of injury, or death of muscle. The T-wave, the most labile and least specific feature of the electrocardiogram, may be affected by a large variety of factors, only one of which is ischemia. Changes in the RS-T segment usually but not always correspond to acute muscle damage. It is generally transitory and rarely permanent. Like the T-wave this may indicate an anatomical or biochemical lesion. QRS changes practically always signify death or replacement of the heart muscle; this is generally associated with coronary artery disease. Rarely it may result from heart muscle damage from other causes. The electrocardiogram is quite accurate in the detection of acute myocardial infarction but inaccurate in the diagnosis of old or of multiple infarcts. It remains to be seen whether the newer vectorcardiography will attain a greater accuracy.

American Surgeon, Atlanta, Ga.

19:803-914 (Sept.) 1953

- *Surgical Significance of Tumors in Identical Twins: A Short Review of the Literature and Report of Sympathicoblastoma Occurring in Monozygotic Twins. C. M. Lee Jr.—p. 803.
- Respiration and Anesthesia. D. F. Proctor.—p. 812.
- Surgery of Pulmonary Tuberculosis. J. H. Forsee.—p. 821.
- Surgical Management of Adrenocortical Tumors: With Report of a Case. J. D. Hardy, F. H. Alley, R. S. Jones and E. P. Bowerman.—p. 833.
- *Certain Practical Considerations in Management of Carcinoma of Lung: Based on an Analysis of 235 Fatalities. F. F. Boyce.—p. 846.
- Appendicitis, Antibiotics, and Surgical Drainage. E. F. Fowler and J. A. Bollinger.—p. 858.
- Further Experiences with Experimental Reconstruction of Common Bile Duct: Use of Autogenous and Homologous, Fresh and Preserved Grafts of Blood Vessel, Ureter and Common Duct. A. W. Ulin, L. Van Ess, J. Entine, A. E. Pearce and W. L. Martin.—p. 867.
- Acute Appendicitis in Children. D. B. Corcoran.—p. 874.
- Obstructive Enterostomy and Treatment of Obstruction of Small Bowel. H. A. Gamble.—p. 880.
- Indications and Contraindications for Tonsillectomy. J. A. Harrill.—p. 889.
- Subdeltoid Bursitis. J. H. Boland.—p. 892.
- Laboratory and Clinical Evaluation of Antrenyl, a New Anticholinergic Drug, and Its Application to Surgery. M. P. Rogers and W. Barrett —p. 896.

Surgical Significance of Tumors in Identical Twins.—This report of sympathicoblastoma in monozygous twins is believed to be the first. A review of the literature shows that tumors that have been common to both monozygous twins are chondrous exostoses, medulloblastoma, glioma, adenofibroma and carcinoma of the breast, melanoma and retinoblastoma of the eye, congenital cystic tumors of the kidney, papilloma of the larynx, carcinoma and cystoma of the ovary, nevi of t skin, testicular sarcoma, and myoma and adenocarcinoma the uterus. Of identical twin boys born July 29, 1951, tw B underwent surgical removal of a sympathicoblastoma the region of the left kidney on Dec. 12, 1951. Laparoto was advised for his brother, but refused by the moth Roentgenotherapy did not improve the disease in twin whose condition deteriorated rapidly until his death on Mar 10, 1952. Meanwhile, twin A, in whom a metastatic lesi had developed in the right temporal region, underwent exploratory laparotomy on Jan. 24, 1952. A biopsy from t right temporal mass was taken at the same time. The li was found to be infiltrated by metastases in both the ri and left lobes. The primary tumor was in the right adre with extension into the kidney and the roots of the mesenteri Twin A was not treated with roentgenotherapy, but w triethylene melamine, 1 mg. daily for three days. Later, the age of 15 months, an apparently spontaneous remiss occurred, but there remained several metastatic lesions, so of which were similar to those found in his brother at autop The recognition of a tumor in one of a pair of identical tw should make the clinician alert to the possibility of a tu in the other twin. In general, when the tumor is discove in one twin during infancy or early childhood, the likelih of concurrence is probably even greater than it is in adu since the genetic factors are more likely to predomin Although vigilance with respect to the apparently healthy t is to be recommended at any age, it is especially import in the tumors of early life.

Management of Carcinoma of Lung.—Although surgical te niques have been greatly improved, the present yearly salv of cases of carcinoma of the lung is barely 5%; this is to the inadequacy of present diagnostic methods. Two-thi to three-fourths of all patients are inoperable when first s There has been a steady increase in the incidence of disease within the last 17 years, and it is on its way to coming the most frequent type of malignant lesion in m It is suggested that physicians should keep a close watch men over 40 who complain of respiratory symptoms that they refrain from relieving such symptoms without finding out what is wrong with their patients, since a ma cause of the high mortality rate of carcinoma of the l is the relief of its symptoms by sulfonamides and, particula antibiotics. Cardiac, psychosomatic, and other diseases frequently accepted as causes of respiratory symptoms are really caused by carcinoma of the lung, or, if no diagn can be made, the patient is subjected to observation w actually an exploratory thoracotomy should be perform Of the 235 patients to whom carcinoma of the lung pro fatal at the Charity Hospital of New Orleans between 1 and 1952, 76 had typical histories, 98 more or less sugg tive ones, 53 entirely atypical ones, and the remaining 8 d too soon for any information to be obtained. Diagno methods in carcinoma of the lung can be improved, parti larly by a more careful study of roentgenograms taken f tuitously or for other reasons. We rely chiefly, at the pres time in the diagnosis of the early, resectable case, on prompt and bold resort to exploratory thoracotomy, on j tifiable evidence if it exists or on simple clinical suspic if it does not. Both internists and surgeons must display greater boldness than they have in the past if lives are to saved in carcinoma of the lung.

Blood, New York

8:769-866 (Sept.) 1953

- Paroxysmal Nocturnal Hemoglobinuria: Relation of Clinical Manifes tions to Underlying Pathogenic Mechanisms. W. H. Crosby.—p. 7
- Acquired Hemolytic Anemia, with Special Reference to Antiglob (Coombs') Reaction. J. V. Dacie.—p. 813.
- Secondary Hemochromatosis: I. Transfusion (Exogenous) Hemochro tosis. A. C. Aufderheide, H. L. Horns and R. J. Goldish.—p. 824.
- Id.: II. Report of Case Not Attributable to Blood Transfusions. R. Goldish and A. C. Aufderheide.—p. 837.
- Clotting of Fibrinogen. K. Laki.—p. 845.

Circulation Research, New York

1:371-474 (Sept.) 1953

Estimation of Peripheral Vascular Resistance to Varying Rates of Flow in Isolated Rat Hindquarter. A. E. Doyle.—p. 375.
Theoretic Analysis of Influence of Heart-Dipole Eccentricity on Limb Leads, Wilson Central-Terminal Voltage and Frontal-Plane Vectorcardiogram. E. Frank.—p. 380.
Relationship Between Cerebrospinal Fluid Pressure Changes and Cerebral Blood Flow. M. Rich, P. Scheinberg and M. S. Belle.—p. 389.
Polyvinylpyrrolidone: Electromigration Characteristics of Blood Plasma Expander. H. J. McDonald and R. H. Spitzer.—p. 396.
Higher Frequency Phenomena in Normal Ballistocardiogram. J. N. Edson, R. Dickes, G. H. Flamm and M. Tobin.—p. 405.
Glomerular Filtration Rate, Renal Blood Flow and Blood Viscosity During and After Diabetic Coma. F. C. Reubi.—p. 410.
Dynamic and Neurogenic Factors Determining Hepatic Arterial Flow After Portal Occlusion. S. M. Sancetta.—p. 414.
Effect of Diet on Blood Pressure and Heart Rate of Normal Dogs: Protein and Carbohydrate. C. M. Wilhelmj, V. W. Meyers, D. P. Milani and others.—p. 419.
Analysis of Radiocardiogram in Heart Failure. R. A. Shipley, R. E. Clark, D. Liebowitz and J. S. Krohmer.—p. 428.
Hypertension Following Bilateral Nephrectomy of Dog: Influence of Dietary Protein on Its Pathogenesis with Emphasis on Its Development in Absence of "Extracellular Fluid" Expansion. E. E. Muirhead, F. Jones and P. Graham.—p. 439.
Protection Against Hypertension, Arteriolonecrosis and Death by Hog Renal Extracts in Experimental Malignant Hypertension. R. O. Burns Jr. and G. E. Wakerlin.—p. 454.
Acetylcholinesterase in Conductive Tissue of Heart. W. F. H. M. Mommaerts, P. A. Khairallah and M. F. Dickens.—p. 460.
Further Evidence for Critical Vessel Caliber in Experimental Coronary Shock. H. I. Jacobs, V. Rosen and C. M. Agress.—p. 466.

Connecticut State Medical Journal, Hartford

17:731-808 (Sept.) 1953

Acute Regional Ileitis. R. Siegel and B. V. White.—p. 738.
Carotid Body Tumor in Mentally Sick Patient—Case Report. H. Pierson. —p. 741.
Blood Volume: Important Factor in Preoperative Evaluation. C. M. Barbour Jr.—p. 747.
Trichinosis—Great Mimic. S. D. Kushlan.—p. 751.
Leiomyosarcoma of Uterus Following Irradiation for Non Malignant Bleeding. S. B. Weld.—p. 755.
Electro-Ballisto-Cardiograph Selector Switch and Permanently Wired Table. A. Koffler.—p. 759.
Challenge of Our Aging Population. W. C. McKain Jr.—p. 760.
Physician and Federal Retirement Pension Programs. W. H. Lewis Jr. —p 762.

Gastroenterology, Baltimore

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Gastroscopic Diagnosis of Gastric Ulcers.—This report is based on gastroscopic studies in 333 patients with gastric ulcers in whom a differentiation had to be made between a benign and a malignant lesion. Since adequate follow-up was not possible in 60 of these cases, there remain 273 cases in which the gastroscopic diagnosis could be verified. A sharply cut-out edge and the presence of small hemorrhages in the normal mucosa were considered gastroscopic signs of benign ulcer, whereas blending of the edge of the ulcer, bleeding at the edge, small ulcerations in the vicinity of the ulcer, and dark red color of the ulcer wall were regarded as indicative of malignant disease. A total of 239 cases were correctly identified by gastroscopy, that is, 191 as benign ulcers and 48 as malignant ulcers. A wrong diagnosis was made in 20 cases: 18 benign ulcers were considered malignant and two malignant ulcers were considered benign. In 14 cases the gastroscopist was not able to commit himself, chiefly because a portion of the ulcer could not be visualized. Of these, nine proved to be benign and five malignant. None of the usual gastroscopic signs for the differential diagnosis of benign and malignant ulcer seems to be entirely reliable. Occasionally there may be an "unsharp" edge in a benign ulcer or a sharp edge in a malignant one; therefore, the clinician can accept the gastroscopic impressions only as suggestions that he has to correlate with other clinical data. There are cases in which both the roentgenologic and the gastroscopic diagnosis are wrong. If other diagnostic procedures such as gastric analysis, Papanicolaou test, stool examination for blood, sedimentation rate and clinical observation, are employed, the clinician can still arrive at the correct diagnosis. The author concludes that the percentage of correct gastroscopic diagnoses is so high that it appears to be a valuable or even the most valuable method in the differential diagnosis of gastric ulcer. Gastroscopic observation has been known to establish a correct differential diagnosis of gastric ulcer when this proved impossible with the inspection of the gross specimen. This is due to the circulating blood producing more brilliant coloring.

Giant Benign Gastric Ulcers.—Marshak and associates present the histories of seven patients with giant gastric ulcers, the diameter of the lesions ranging from 3.5 to 7 cm. The average age of onset was 60 years, the youngest patient was 50 and the oldest 74. Clinically, the chief complaint was abdominal pain, not responding to strict ulcer regime. Progress of the patient, as followed by roentgenograms, failed to reveal any evidence of healing of the gastric lesion. Because of these factors the clinical impression was malignant disease. On roentgen examination, all these giant ulcers were visualized on the posterior wall near the lesser curvature in the midcorpus of the stomach. The roentgenograms suggested a benign lesion in four cases and carcinoma in one; the other two were equivocal. Gastroscopic examination suggested a benign lesion in two out of four lesions. Gastroscopically, the ulcers presented smooth, regular, well-defined margins, but the bases were necrotic. Gastric acidity was normal or elevated. Melena was present in one, in another the stool gave a positive guaiac test, while in the others the guaiac test was negative. At laparotomy, a hard, indurated mass involving the stomach, pancreas, and occasionally the liver or mesentery was found. The surgeon in some instances was reluctant to resect the stomach because the huge, indurated mass suggested an extension of the malignant process into adjacent tissues. The characteristic pathological change was a complete, walled-off perforation through the entire thickness of the gastric wall. The base of the ulcer was formed by the capsule of the pancreas or liver. Microscopic examination of the lesion, however, revealed chronic, benign, gastric ulcer. It is doubtful whether these giant, benign, perforated, walled-off gastric ulcers ever heal completely under medical therapy. The surgeon must be aware of this clinical entity, since gastric resection results in a cure.

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Hyaluronidase in Traumatic Surgery.—Collections of extracellular fluid in the form of hematoma, hemarthrosis, and edema complicate many cases seen in orthopedic and traumatic surgery. Definitive treatment is often delayed while the surgeon waits for nature to dispose of hematoma and edema. The enzyme hyaluronidase is now available as a means to accelerate the dispersion of these fluids. Two years' experiences with this enzyme at the New York Orthopedic Hospital are reviewed in this report. Hyaluronidase acts by the depolymerization of the mucopolysaccharide hyaluronic acid. This acid forms the main constituent of connective tissue and joint fluid. The breakdown of these natural barriers facilitates rapid dispersion of extracellular fluid collections. The sprained ankle demonstrates the advantage of hyaluronidase therapy. The area of maximum swelling and its periphery are injected with 1,000 turbidity reduction units of the enzyme in 5 cc. of 1% procaine; an elastic bandage is applied and the patient is allowed to walk. One or two hours later, the swelling and hematoma are greatly reduced. The elastic bandage is then reapplied. By allowance of immediate painless weight-bearing, the disability time is greatly reduced. The efficacy of local anesthesia can be increased by the use of hyaluronidase, particularly in fractures about the forearm. Usually there is a 20 minute lag between injection and adequate anesthesia. By the addition of 500 turbidity reduction units of hyaluronidase to the procaine solution, excellent anesthesia is obtained in three to four minutes. Application of an elastic bandage enhances the action of the hyaluronidase in dissipating the hemorrhage and edema. With complete anesthesia and the reduction of the surrounding swelling, the bone ends are more easily palpated and a satisfactory reduction is possible. Hyaluronidase and procaine offer an effective nonoperative method to relieve the subfascial tension caused by edema and hemorrhage in supracondylar fractures of the elbow, which involve the threat of Volkmann's contracture. A case history is presented to illustrate this. Soft tissue hemorrhage, postoperative hematoma, and hemophylic hemarthrosis were other conditions in which hyaluronidase proved helpful. In a hemophiliac patient with an acute hemarthrosis, the clotting time and other laboratory data are obtained. Plasma or fresh blood is given to lower the clotting time. The joint is entered with a small bore needle, and 3 to 4 cc. of the viscid blood is removed. Then 1,000 turbidity reduction units of hyaluronidase are mixed with procaine in the amount equal to that of the blood withdrawn. This is injected into the joint and a snug elastic bandage is applied. No treatment other than bed rest is necessary. When the patient is reexamined in 24 hours, pain is usually absent and the range of motion is much greater. Occasionally, a second injection is necessary. After 48 hours, the patient can walk without pain or has free use of an upper extremity. This method produced favorable results in 19 of 20 cases of hemarthrosis.

Osteitis Pubis of Traumatic Etiology.—A review of the literature indicates that osteitis pubis is an inflammatory disease of bacterial origin that occurs most commonly following retropubic surgery in males. A youth with osteitis pubis was recently studied in the orthopedic surgery department of the University of Illinois hospitals. The uniqueness of this case and the review of four other very similar cases in the literature suggested that an entity similar to postoperative osteitis pubis in the elderly male may also occur in the younger age group. A youth, aged 18, was hospitalized with a history of lower midabdominal pain with radiation into the upper medial portions of the thighs. The onset had occurred one year previously while running in indoor track at high school. In January, 1949, his physician, suspecting appendicitis, removed the appendix, but upon resuming physical exertion the patient experienced a return of discomfort. The pain troubled him when he ran or walked, and he had a "waddling" gait when fatigued. In January, 1950, roentgenograms revealed a destructive lesion in the symphysis pubis. A biopsy was done, and a diagnosis of chondrosarcoma was made. The patient was then referred to the University of Illinois hospitals. Bony enlargement of the symphysis pubis was noted. Passive abduction of the hip joints beyond 20 degrees produced severe pain in the adductor groups and the symphysis pubis. In March, 1950, with a clinical diagnosis of chondritis of the symphysis pubis, a suprapubic resection of this structure was accomplished, the defect being bridged by an autogenous tibial-bone graft. At the time of surgery, the lesion appeared yellow in color, was firm and gritty in consistency, and contained irregularly arranged bony spicules. The suprapubic wound failed to heal, and within 10 days gross infection was evident. A hemolytic strain of Micrococcus pyogenes var. aureus (Staphylococcus aureus) was cultured from the pus. Neither penicillin nor streptomycin controlled the infection. Two months after its insertion, the bone graft and a sinus tract that communicated with the skin were removed surgically and the wound was packed open. Healing then occurred without sinus formation, and the patient was ambulatory six weeks later. He subsequently returned to full activity, including strenuous sports, without complaint or disability. A specimen for histological examination made possible a description of the pathological changes associated with osteitis pubis of traumatic origin in a young person. These findings suggest that the traumatic disease was inflammatory in nature and possibly bacterial in origin. Four similar cases from the literature are reviewed. Osteitis pubis of traumatic origin should be treated conservatively. Complete bed rest may be necessary in the acute phase and a plaster-of-Paris spica may be reuired to limit hip and pelvic motion in such instances. Later, ith improvement, a snugly drawn sacroiliac belt might be ieful to decrease symphysial movement during weight-bearg. Ambulation should be resumed as soon as it can be lerated, but strenuous activities should be minimized until entgenographic and clinical signs indicate healing. The adinistration of antibiotics would probably be of value during e acute phase, especially if signs of gross infection become anifest. When abscess formation occurs incision and drainge should be done.

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Resection of Acquired Coarctation of Low Thoracic Aorta and Replacement with Preserved Vessel Graft. R. A. Deterling, Jr.—p. 290.
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Localized Pleural Mesothelioma of Epithelial Type. R. Yesner and A. Hurwitz.—p. 325.

Resection of Acquired Coarctation.—The coarctation commonly treated by surgery occurs as a congenital anomaly immediately below the origin of the left subclavian artery. In the case reported, a coarctation that was thought to be acquired was located 6 cm. above the diaphragm. While surgical repair of coarctation occurring in the usual site is no longer considered rare, only five operations have been performed and reported in patients with stenosis just above the diaphragm. In a 23-year-old woman with a long coarctation of the low thoracic aorta, a 9 cm. segment was excised and replaced by an 8 cm. preserved aortic homograft. An obliterated left subclavian artery was found. A left hemothorax occurring on the fourth postoperative day was believed to be due to a leak from an aortic fracture caused by the proximal aortic clamp. The end-result was quite satisfactory, with complete resolution of the hemothorax and normal brachial blood pressure and blood flow to distal extremities. The character and site of the lesion, as well as the medical history, support the theory that the coarctation was acquired.

Closure of Interauricular Septal Defects.—This new and successful method for the closure of interauricular septal defects is an elaboration of the one described by Söndergaard in 1952. A groove is made between the superior vena cava and pulmonary veins. With a finger inserted in the auricle through the right auricular appendage, a needle is guided subendocardially in the septal plane. It is introduced through the right auricular wall close to the root of the aorta just behind the right coronary artery. The needle follows the aorta down and through the upper portion of the interventricular septum. Through the posterior portion of the interventricular septum the needle should come more toward the left side and then out through the left auricular wall behind the inferior vena cava, close to the annulus fibrosus. The two ends of the suture are tied in the groove. This method seems to be applicable even in patients with a very large interauricular septal defect without a septal rim.

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Massive Electrocoagulation of Deeply Infiltrating Bladder Tumors Combined with Ligation of Vena Cava for Prevention of Pulmonary Embolism. F. E. B. Foley, E. J. Richardson, W. P. Mulvaney and I. Victor.—p. 456.
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*Massive Melena: Survey of 129 Cases Seen at Charity Hospital from March, 1950, to December, 1952. J. D. Rives and R. O. Emmett. —p. 293.
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Corneal Transplants. G. M. Haik.—p. 308.
Nature and Management of Cardiac Arrest. P. T. DeCamp.—p. 311.
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Massive Melena.—Of 4,377 patients admitted to the surgical services of the Charity Hospital at New Orleans for acute abdominal complaints, 380 (8.7%) were emergency admissions for sudden hemorrhage from the gastrointestinal tract. Of the latter group, 251 patients (66%) had hematemesis with or without melena; 129 (34%) had melena alone. These 129 cases form the basis of this report. From observations on these patients a procedure was evolved which is now followed when a patient presents himself with a story of bleeding from the rectum. First the constitutional effect of the hemorrhage, that is, the blood pressure and evidence of shock are ascertained. Blood transfusions are instituted if shock exists. A digital examination of the rectum determines whether blood is present there. If the cause of hemorrhage is not obvious, a Levine tube is inserted into the stomach to determine whether blood can be found in the upper gastrointestinal tract. Physical examination is limited to a superficial examination of the heart and lungs, measurement of blood pressure, and palpation and auscultation of the abdomen. Leukemia should be looked for. A red blood cell count and a hematocrit will indicate roughly the amount of blood loss. A nonprotein nitrogen or a blood urea nitrogen determination is made for evidence of uremia. These tests are likely to show high values in the presence of large quantities of blood in the gastrointestinal tract; however, they are not usually high enough to confuse the diagnosis with that of true uremia. If the evidence points to bleeding from the upper gastrointestinal tract, x-ray studies of the gastroduodenal segment should be considered, even during the bleeding period. Until recently the authors avoided such examinations, but they have real value, although the gastrointestinal tract containing blood clots may not give clear pictures. If the evidence points to a lesion below the gastroduodenal segment, sigmoidoscopic examination should be done. A barium enema should be given, if none of these examinations demonstrate the location of the bleeding. Massive bleeding from the rectum is not characteristic of carcinoma, the lesion is more likely to be diverticulosis and diverticulitis. It may be wise to defer the examination by barium enema if evidence of acute diverticulitis is present. Surgery may be necessary if the diagnosis cannot be established by other means, although it is unreliable for determining the location of gastrointestinal bleeding. Roentgen examination is the best method for locating lesions that cause melena, especially in the gastroduodenal segment. It is almost equally valuable in the colon above the rectosigmoid junction. Most lesions that are readily demonstrable by roentgenograms in the colon do not usually produce gross hemorrhage. Proctoscopic examination, or rather sigmoidoscopic examination, is practically infallible in lesions of the rectum and rectosigmoid junction.

Heart Disease in Chronic Arsenic Poisoning.—Robbins presents the histories of two patients with chronic arsenic poisoning. The first patient, a cotton farmer, gave a history of having dusted cotton repeatedly from 1923 through 1939 with a compound that contained arsenic, and during those years he had recurrent episodes of vertigo, weakness, nausea, and vomiting. In 1946, he again was briefly exposed to arsenic, and these symptoms recurred and were followed by sore throat, hoarseness, swelling of the face and neck, and paroxysmal dyspnea. Edema of the soft palate and of the pharynx was discovered, and although diphtheria organisms could not be found, he was treated with digitalis, pencillin, and diphtheria antitoxin. An x-ray film of the chest revealed pulmonary congestion. From 1947 through 1952, the patient was hospitalized 19 times, but he never fully recovered from the episode in 1946. Serial electrocardiograms showed myocardial disease. The second patient was a 40-year-old laborer, whose job required that he clean oil-well drilling equipment. He would mix a powder with water, place this solution in a closed container, light a fire under it, and expose the tools to the steam, previously treated with a compound of hydrochloric acid and arsenic. After having been thus employed for about eight months, he noted nausea, vomiting, anorexia, giddiness, and excessive salivation. Two months later an erythematous eruption developed about the hands and feet, associated with paresthesia. The rash spread until it involved his entire body. Conjunctival erythema and lacrimation developed. In May, 1949, he was found to have a generalized scaling pigmented maculopapular rash, with marked thickening of the palms and soles. A Kolmer blood test for syphilis was positive. In September, 1950, the burning pains in the feet had gotten worse until he could no longer stand or walk. He again had nausea, vomiting and abdominal distress. His gums were swollen painful, and his teeth loose. The hair and nails were fc to contain 33.9 parts per million of arsenic, and 24 hour u specimen contained 0.006 parts per million of arsenic. Ti ment consisted of bed rest, penicillin, and dimercaprol. T was slight improvement in the paresthesia and the cardiac diminished. He was discharged with the diagnosis of chr arsenical intoxication. In October, 1951, he was hospita because of recurrence of all symptoms, after having retu to his old job. He received dimercaprol together with a caloric diet and multiple vitamins, but his clinical resp was not gratifying. He was again hospitalized in March, 1 because of ascites, pedal edema, abdominal cramps, diar chronic cough, exertional dyspnea, and palpitations. He sponded fairly well to digitalis, low sodium diet, and merc diuretics. He was followed in the outpatient clinic, an months later symptoms of chronic congestive failure persi The etiology of the heart disease in these men was n explained. Neither patient had hypertension, retinopathy, evidence of valvular pathology; both had congestive r than anginal failure. Although in one patient the sero tests for syphilis were positive, the absence of clinical radiographic evidence of valvular and aortitic lesions cluded the diagnosis of syphilitic heart disease. The phary edema, which suggested diphtheria, was the most classic s tom of early chronic arsenical intoxication.

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Artificial Insemination. R. Bieren.—p. 461.
Anxiety Reactions: Acute Anxiety Attack or Panic, Anxiety and Te States, and Anxiety Neurosis: Outline of Data Relative to Identification and Management. H. P. Laughlin.—p. 463.

Gastric Decompensation.—According to Gibb there are tain aspects of prolonged duodenal ulcer that are not cl explainable by the usually accepted concepts of the mecha involved. It is usually assumed under these circumstances the lumen of the pylorus is occluded by scarring and cor tion, by edema associated with an antral gastritis or denitis, spasm, or combinations of all three. The fact retention can be relieved in most cases by bed rest, spasmodics, diet, and repeated gastric lavage leads to conclusion that edema is largely responsible. The autho amined with the flexible gastroscope the stomachs of r persons with varying degrees of gastric retention, and, e for some with maligiant lesions, he has yet to see a s pylorus that was actually stenosed or occluded or an an that was edematous to a degree sufficient to produce occlu Before presenting his somewhat different concept of the p physiological mechanism of pyloric obstruction and prolo gastric retention, he presents his idea of the normal func ing of the stomach and duodenum. In cases of repeated ul tions at the duodenal cap more and more scar tissue f and gradually the cap loses its normal elasticity. The i duodenal pressure regulatory mechanism fails, and, when pylorus opens after systole, an abnormal amount of r occurs. In addition, the lumen of the very first portion of duodenum is reduced because of scar tissue. Greater for required to get the usual amount of material through it in usual length of time. The same situation may be said to as in a stenosed and incompetent heart valve. Similar to heart, the stomach has to work harder in order to keep with its full work load. Unlike the heart, however, the st ach has no capacity to hypertrophy to assist it in remai competent. If at this point the work load of the stomac decreased, as, for example, when the patient goes on a untary or prescribed diet that reduces the quantity and cha the character and consistency of the food he eats, the stom may be able to maintain its compensation and empty in prescribed length of time. The clinical picture of pyloric s osis is not due to actual closure of the pylorus, but ra to a relative incompetence of its valve action. Because competence of the mechanism can be restored by such sin means as repeated gastric lavage does not mean that underlying pathological condition causing the situation has in any way been changed. This concept may explain why pyloroplasty does not always work as well as might be expected. The author admits that the evidence to support his concept of gastric compensation and decompensation is fragmentary, open to criticism, and may be incorrect. He feels, however, that it is a more workable theory than any that are described in the standard textbooks.

Medicine, Baltimore

32:293-388 (Sept.) 1953

Nutritional Influences on Physiology of Skin: Observations on Metabolism of Vitamin A. R. D. Griesemer, C. N. Frazier and I. H. Blank. —p. 293.
Nature and Treatment of Polycythemia: Studies on 263 Patients. J. H. Lawrence, N. I. Berlin and R. L. Huff.—p. 323.

Metabolism, New York

2:391-484 (Sept.) 1953

Body Compartments: Their Measurement and Application to Clinical Medicine. G. J. Hamwi and S. Urbach.—p. 391.
*Maintenance Management of Addison's Disease with Injections of "Long-Acting" Microcrystalline Esters of Desoxycorticosterone. S. Z. Sorkin and L. J. Soffer.—p. 404.
Case of Hyperadrenocorticism with Spontaneous Improvement: Effects of Potassium Acetate, Corticotropin (ACTH), Cortisone Acetate, Desoxycorticosterone Acetate and Methyltestosterone. G. W. Liddle, J. E. Giansiracusa and L. L. Bennett.—p. 411.
Modification of "Steroid Diabetes" by Potassium. L. W. Kinsell, H. E. Balch and G. D. Michaels.—p. 421.
Effect of ACTH on Responsiveness to Insulin. H. J. Zimmerman, A. E. Parrish and L. K. Alpert.—p. 424.
Metabolism of Intravenously Infused Fructose in Man. T. E. Weichselbaum, H. W. Margraf and R. Elman.—p. 434.
Role of Human Liver in Assimilation of Intravenously Administered Fructose. A. I. Mendeloff and T. E. Weichselbaum.
Utilization of Intravenous Fructose in Diabetic Acidosis and in Pancreatectomized Human. W. H. Daughaday and T. E. Weichselbaum. —p. 459.

Maintenance Management of Addison's Disease.—An attempt was made to improve the administration of desoxycorticosterone acetate (DCA) in the maintenance therapy of Addison's disease, with a view toward long-term management. Formerly, the two methods of administration were daily injection in an oil solution and annual or semiannual implantation of the crystalline hormone in the form of pellets. The latter method was designed for long-term therapy, but was found technically impractical. The successful use by injection of suspensions of crystalline sex hormones, which are absorbed slowly and thus give a prolonged effect suggested to Meier, Gasche, and Frey that crystalline desoxycorticosterone acetate might be used in a similar manner. A test of this idea was run on 10 patients with Addison's disease, after the above authors' experiments on dogs and rats whose adrenals had been removed had proved successful. The maintenance treatment was carried out successfully with aqueous suspensions of microcystalline desoxycorticosterone trimethylacetate and phenylacetate given in injections of 50 to 120 mg. at intervals of four to six weeks. All of the patients received small daily supplements of sodium chloride, and two patients were also given cortisone acetate.

Military Surgeon, Washington, D. C.

113:157-250 (Sept.) 1953

Ship's Motion and Incidence of Seasickness. S. W. Handford, T. E. Cone Jr. and S. C. Gover.—p. 157.
Evacuation by Army Aviation During Exercise Long Horn. D. E. Liston and C. G. Giesecke.—p. 167.
ACTH and Cortisone Abstinence Syndrome. R. de R. Barondes, T. J. Kane and C. Strachan.—p. 171.
Endemic Panmyelotoxicosis in Russian Grain Belt: Part One: Clinical Aspects of Alimentary Toxic Aleukia (ATA); a Comprehensive Review. C. F. Mayer.—p. 173.
Informal Report on Use of Dark Field in Diagnosing Jaundice. C. A. Toledo S.—p. 189.
Open Reduction of Fracture of Edentulous Mandible. R. E. Crowley. —p. 195.
Flight Nurse as Leader. F. I. Lay.—p. 196.
Survey of Intestinal Parasitic Infection Found in Feces of Formalin-Fixed Appendices. M. B. Rodney, B. Sonnenberg and R. R. Dalton. —p. 200.
Shrapnel. J. H. Schaefer.—p. 206.
Trans-Medic Team. W. G. Newbold.—p. 208.

Minnesota Medicine, St. Paul

36:897-1008 (Sept.) 1953

Problems in Roentgen Diagnosis of Bleeding Lesions of Upper Gastrointestinal Tract. J. C. Bell.—p. 917.
Massive Upper Gastrointestinal Hemorrhage. J. M. Dorsey.—p. 921.
*Peptic Ulcer Problem. O. H. Wangensteen.—p. 924.
Male Sterility. H. J. Walder.—p. 935.
Evaluation of Female Sterility. L. L. Freidman.—p. 938.
The Minnesota Medical Profession and Tuberculosis. J. A. Myers. —p. 944.
Extrapulmonary Intrathoracic Tumors: Clinical Manifestations and Surgical Treatment. S. W. Harrington.—p. 953.
Aspiration Biopsy of Bone Marrow: Its Diagnostic Value. G. L. Pease. —p. 961.

Peptic Ulcer.—According to Wangensteen, peptic ulcer is still a challenging problem. Patients who get along well on medical management are not candidates for surgery. The patient to whom the monotony of the ulcer diet does not appeal, the patient who is never long wholly free from pain, the patient with recurrent gastric hemorrhage, as well as the patient with periodic episode of obstruction—all should be advised to have an operation for the relief of peptic ulcer. There seems to be no reason to withhold operation from patients who have had more than one episode of hematemesis from peptic ulcer. When the medical profession learns to manage the threat of hemorrhage from peptic ulcer in a satisfactory manner, the mortality will disappear. The serious threat of perforation is now largely under control. Through improved surgical care, including employment of antibiotics and better toilet of the peritoneal cavity at the time of the closure of the perforation, the mortality of perforation is no longer as serious as it was a decade ago. Earlier and more frequent recourse to operation is particularly advisable for gastric ulcers, inasmuch as they frequently recur at the same site and involve the threat of cancer. The author concludes that the key to the reduction of the high mortality of peptic ulcer in patients between 40 and 70 is readier recourse to operation in patients who have had gastric hemorrhage, which must be recognized as synonymous with failure of adequate control by conservative means. Hemorrhage is the most important single cause of death from peptic ulcer.

Nebraska State Medical Journal, Lincoln

38:313-352 (Sept.) 1953

Rehabilitation: Third Phase of Medical Care. H. N. Neu.—p. 315.
Psychosomatic Medicine—New Approach. F. R. Barta.—p. 320.
Preventive Care of Infants and Children: III. Influence of "Guided Growth" on Feeding and Sleeping Patterns of Infants—Physiological and Psychological Background. B. B. Oberst, C. A. Tompkins and V. J. P. Hamlin.—p. 324.
Disposition of Ulcer in Surgery for Duodenal Ulcer. B. R. Bancroft. —p. 329.
Special Poliomyelitis Clinic. E. W. Hancock.—p. 331.
Viruses as Cause of Cancer. H. E. Eggers.—p. 334.

New England Journal of Medicine, Boston

249:245-386 (Aug. 27) 1953

*Toxoplasmosis. R. S. Beckett and F. J. Flynn Jr.—p. 345.
Psychiatric Research in a General Hospital. H. M. Fox.—p. 351.
The Theory and Practice of Public Health. V. A. Getting and C. F. Ryder.—p. 354.
Functional Disorders of Menstruation in Adolescence. J. W. McArthur. —p. 361.
Anaphylactoid Reaction to the Hydriodide of Diethylaminoethyl Ester of Penicillin G (Neo-Penil). B. T. Fein.—p. 368.

Toxoplasmosis.—Toxoplasmosis has been recognized for about 50 years, and an increasing number of cases of it in humans is being reported. The authors report two new cases of congenital toxoplasmosis, one of which closely resembled erythroblastosis fetalis. It is suspected that the infection was transferred to the mother by a dog. Involvement of the placenta was demonstrated in the second case. A classification of the disease is set up which includes six types: (1) asymptomatic infection, (2) mild grippe-like infection, (3) infections simulating infectious mononucleosis, (4) chorioretinitis, (5) acquired systemic infection, and (6) congenital infection. Serologic tests such as the Sabin-Feldman dye test are used to increase and improve the diagnosis of toxoplasmosis, but effective treatment of toxoplasma infections is still needed.

New Jersey Medical Society Journal, Trenton

50:363-442 (Sept.) 1953. Partial Index

Public Relations: New Old Concept. R. I. Nevin.—p. 370.
Trends in Medical Care: Medical Service Plans in New Jersey. E. W. Sprague.—p. 371.
Half Century of Medicine. G. H. Lathrope.—p. 377.
Fifty Years of Surgical Progress. D. B. Allman.—p. 382.
Advances in Maternal Welfare: 1903-1953. H. P. Shipps.—p. 391.
Military Role of New Jersey Physicians in Past 50 Years. H. A. Brodkin.—p. 394.
Mother's Milk Bank of Essex County. H. A. Murray.—p. 401.
Fifty Years of Pharmacology. R. D. Goodman.—p. 405.
Fifty Years of Progress in Public Health. D. Bergsma.—p. 417.
Fifty Years of Urology: Review. C. R. O'Crowley.—p. 427.

Ohio State Medical Journal, Columbus

49:769-860 (Sept.) 1953

*Bronchiogenic Carcinoma Simulating Virus Pneumonia. H. R. Custer and K. P. Klassen.—p. 793.
Practical Aspects of Burn Therapy. E. H. Ellison, R. D. Williams and R. M. Zollinger.—p. 798.
Use of Split-Thickness Skin Grafts in Bilateral Ischiorectal Abscess. F. J. Rack.—p. 802.
Brain Wave Patterns and "Crystallized Experiences." D. M. Palmer and H. A. Rock.—p. 804.
Curb Service for Diagnosis: Mobile Laboratory. I. C. Albert.—p. 807.

Bronchogenic Carcinoma Simulating Virus Pneumonia.—Custer and Klassen show that bronchogenic carcinoma may at first produce bronchial stenosis and partial occlusion with associated pneumonia peripherally, which will respond temporarily to antibiotic therapy. However, as the cancer grows the bronchus becomes completely obstructed, resulting in recurrent pneumonitis or atelectasis which is mistaken for pneumonia. This is the type which is erroneously diagnosed as recurrent or virus pneumonia. Three case histories are presented which show the danger of making a diagnosis of virus or recurrent pneumonia. The first of these patients was treated for pneumonia by several physicians over a period of nine months. His history was compatible with, but not diagnostic of, pulmonary cancer. The correct diagnosis was not established. The second case is of interest because the history, the physical examination, and an extensive diagnostic search gave no indication of bronchogenic carcinoma. This case also demonstrates that occasionally it is extremely difficult to diagnose the cancer grossly even when the surgeon has the lung exposed. In the presence of diffuse inflammatory necrosis the frozen section reports are often misleading and the decision rests entirely with the judgment and experience of the thoracic surgeon. The third patient had had signs of a pulmonary lesion for many years and progressive symptoms with repeated bouts of pneumonia for over a year. A pulmonary malignancy was not considered until the bronchus had been completely occluded. This case demonstrates the fatality of procrastination. The authors stress that any patient with peumonia who does not respond to antibiotic therapy within three weeks should be suspected of having either a Friedlander pneumonia, lung abscess, tuberculosis, or bronchial obstruction. All efforts should be made to arrive at the correct diagnosis as early as possible, and any patient in whom bronchogenic carcinoma cannot be excluded by other means is entitled to an exploratory thoracotomy.

Pennsylvania Medical Journal, Harrisburg

56:769-864 (Sept.) 1953

Surgical Treatment of Peripheral Vascular Disease. C. A. Hatfield.—p. 793.
Treatment of Mental Disorders in Geriatric Patient. D. V. Conwell and C. J. Kurth.—p. 794.
Rehabilitation After a Stroke. M. B. Ferderber.—p. 798.
What is General Practice. J. H. Nagler.—p. 804.
New Technique in Control of Postoperative Anorectal Pain: Study of 200 Patients. E. J. Lowell Jr., H. E. Bacon and H. D. Trimpi.—p. 807.
Use of Polyvinylpyrrolidone in Management of Shock-Like States: Report of Case. C. L. O'Connell Jr., D. P. Greenlee and F. T. Herron.—p. 813.
Compression of Duodenum by Superior Mesenteric Artery. M. Shumway, W. M. Uhler and P. L. Davis.—p. 816.

Rocky Mountain Medical Journal, Denver

50:703-776 (Sept.) 1953

Presidential Address: E. J. Guilfoyle.—p. 725.
Clinical Note. O. S. Budge.—p. 727.
Psychiatric Difficulties Associated with Eating. C. H. H. Branch and D. E. Reiser.—p. 728.
Danger of Peptic Ulcer Complications During Cortisone or ACTH Therapy. J. A. Edwards and G. F. Wollgast.—p. 734.

50:777-842 (Oct.) 1953

Heart Disease in Small Infants and Children. F. H. Adams.—p. 799.
Problem of Appendicitis in Colorado: Mortality Study. M. E. Peck, J. A. Lichty and A. E. Prevedel.—p. 803.
Use of Bedside Laboratory in Establishing and Maintaining Fluid and Electrolyte Balance. J. R. Spencer and K. C. Sawyer.—p. 808.
Health for You and You for Health. F. S. Crockett.—p. 810.

South Carolina Medical Assn. Journal, Florence

49:227-256 (Sept.) 1953

*Poisoning Due to Anticholinesterase. V. Moseley and H. P. Snead.—p. 227.
Cretinism and Childhood Myxedema. C. R. Holmes and G. W. Smith—p. 232.
Prevention of Rheumatic Fever. M. T. Bellows, E. E. Fischel, A. Kuttner and others.—p. 239.
William Osler's Continuing Influence in Field of Medicine. J. H. Gibbes—p. 240.

Poisoning Due to Anticholinesterase.—Three cases of poisoning that resulted from anticholinesterase insecticides are described in men between the ages of 18 and 37. Two of the patients were employed by a chemical plant and had been exposed to tetraethylpyrophosphate. Both these men had constricted fields of vision and inspiratory and expiratory wheezes over both lung fields. Although the patients wore full protective equipment, observed the safety rules, and did not knowingly come in direct contact with tetraethylpyrophosphate, the authors felt that their symptoms were undoubtedly due to poisoning with this insecticide. The patients were given 1 mg. of atropine subcutaneously on admission, and after two hours this dose was repeated. Elixir of terpin hydrate was given for the cough. All the symptoms subsided within a few hours. No symptoms had reappeared within 24 hours, and the patients were discharged improved. The early recognition of tetraethylpyrophosphate poisoning and prompt treatment resulted in only minor morbidity. The third patient, a farmer, had sprayed tobacco with parathion for four hours. Within one hour he complained of muscle cramps, nausea, sweating, and cough. Shortly afterward he became irrational. He was given 1 mg. of atropine subcutaneously twice on the way to the hospital and was admitted in a semicomatose state. The history revealed that the patient had sprayed tobacco with parathion for a period of about four hours two weeks previously. His only protection against parathion on both occasions was a handkerchief tied over his nose. During the first two hours in the hospital he received 12.2 mg. of atropine without signs or symptoms of toxicity; following subsequent administrations, he became restless and that was attributed to stimulation of the central nervous system by atropine. This undesired side-effect was controlled with phenobarbital sodium, and the dose of atropine was regulated according to the size and reaction of the pupils and flushing of the skin. The patient was given 0.5 gm. of dihydrostreptomycin and 400,000 units of procaine penicillin every 12 hours prophylactically for the first six days of his hospital stay in order to guard against pulmonary infection. After regaining consciousness 72 hours after admission, the patient had no recurrence of previous symptoms and no new symptoms during the following five days of observation. The mechanism of action of the tetraethylpyrophosphate and parathion is by irreversible combination with cholinesterase in all tissues of the body resulting in an excess of acetylcholine, with symptoms depending quantitatively on the amount of cholinesterase inhibited. The danger of additive toxic effects from repeated exposures to small amounts of these insecticides is stressed because of the slow rate of restoration of cholinesterase activity to normal levels. Safety recommendations for workers handling the anticholinesterase insecticide are listed.

Southern Medical Journal, Birmingham, Ala.

46:837-936 (Sept.) 1953. Partial Index

*Intravascular Hemolysis: Morphologic Study of Schizocytes in Thrombotic Purpura and Other Diseases. W. M. Monroe and A. F. Strauss. —p. 837.
Variety of Spinal Lesions Simulating Disk Syndrome. F. J. Otenasek. —p. 843.
Indications for Bone Grafting in Primary Treatment of Fractures. K. A. Fischer and K. D. Leatherman.—p. 846.
Fractures of Head of Radius. C. J. Frankel.—p. 851.
Premature Closure of Cranial Sutures. J. D. King, J. H. Patterson and W. W. Bryan.—p. 852.
Management of Chronic Maxillary Sinusitis in Children. F. L. Bryant. —p. 856.
Evaluation of Pulmonary Insufficiency in Asthma, Pulmonary Fibrosis, and Other Types of Chronic Lung Disease. K. T. McKee.—p. 859.
Psittacosis Problem in Florida. L. L. Parks.—p. 864.
Clinical Aspects of Esophageal Hiatus Hernia: Association of Other Diseases in 158 Cases. J. O. Burke, K. Plummer and C. Robinson. —p. 887.
Torticollis: Its Dynamics and Therapy. R. W. Garnett Jr. and K. Elbirlik. —p. 892.
Thyroid Extract and Its Effect on Ovulation and Menstruation: Clinical Study of 38 Cases with Some Laboratory Data. W. O. Johnson and J. T. Bradbury.—p. 898.
Thyroid Crisis Treated with Corticotropin. A. M. Freeman and H. L. Holley.—p. 905.
Pituitary Necrosis: Following Osteomyelitis of Sphenoid Bone. N. F. Coulter and D. A. J. Morey.—p. 907.
Torsion of Spermatic Cord. R. B. Carson.—p. 909.
Etiology of Hypertension in Coarctation of Aorta. R. C. Little.—p. 911.
Use of Aerosol Trypsin in Atelectasis Neonatorum. E. Balthrop and L. Hicks.—p. 914.
Clinical Evaluation of Disc Method for Determination of Bacterial Sensitivity to Antibiotics. P. B. Holliday Jr.—p. 916.
Improved Friedman Pregnancy Test. J. C. Norris and J. Spink.—p. 919.

Intravascular Hemolysis.—Two fatal cases of thrombotic, thrombocytopenic purpura are reported in a 22-year-old man and in a 62-year-old woman. In the man the disease was of relatively long duration, representing the chronic type, while the woman had the acute type of the disease. Necropsy revealed extensive thromboses in the myocardial vessels of both patients. In both cases, appreciable numbers of erythrocyte fragments were observed at the site of the changes in the myocardial vessels, varying from barely visible granules taking a positive stain for hemoglobin to cells about half the diameter of a red cell. The kidney of the woman, which had many thrombi, showed many of these cell fragments, while in the man there were neither renal thrombi nor erythrocyte fragments. These tiny cell fragments, which often had the full hemoglobin content of a normal erythrocyte, must have arisen by fragmentation of larger cells without loss of the pigment. The term schizocytes has been coined in 1892 by Ehrlich for these small red cells; they were counted by the authors in 40 consecutive suitable unselected necropsies. Organs examined were heart, lung, liver, spleen, pancreas, adrenal, and kidney. The myocardium contained the highest number in 23 cases and the second highest in 2. The kidney was highest in three, and second highest in seven. The authors believe that the myocardial vessels may be a prominent site of mechanical red cell destruction by fragmentation, thus ascribing a new functional role to the coronary circulation. The anemia in thrombotic, thrombocytopenic purpura may be caused by mechanical red cell destruction, especially at the site of vascular lesions.

Virginia Medical Monthly, Richmond

80:477-544 (Sept.) 1953

Duodenal Ulcer. H. H. Bradshaw.—p. 481.
Treatment of Coarctation of Aorta with Homologous Graft—Report of Case. L. H. Bosher Jr.—p. 487.
*Bilateral Total Adrenalectomy in Treatment of Carcinoma of Prostate. K. E. Blunden, R. C. Bunts and F. A. Wade.—p. 492.
Medical Profession and Public Health. J. L. Hamner.—p. 499.

Bilateral Total Adrenalectomy in Carcinoma of Prostate.—Removal of the adrenal glands, which are known to be responsible for five-eighths of the output of androgens, is an antiandrogenic measure and like other antiandrogenic measures (orchiectomy and estrogen therapy) it has a beneficial effect in metastatic disease of the prostate. Actual temporary regression of the disease at a period when extension rather than regression is to be expected has been demonstrated in some cases. Pain is relieved, and the patient's well-being is increased. Maintenance can be satisfactorily achieved with cortisone, and elaborate laboratory control is not needed. The effect of the procedure on life expectancy cannot be determined at this time, because all the reports made so far have been preliminary in nature and nearly all the patients subjected to adrenalectomy have been in the terminal stage of the disease. The only indications justifying the procedure at present are clinical evidence of advanced active metastatic cancer, loss of response to both estrogen therapy and orchiectomy, and incapacitating pain or debility. The benefit afforded by the removal of androgenic elements in hopelessly advanced cases, however, suggests that early adrenalectomy may prove valuable in the treatment of early prostatic cancer. Dramatic relief of pain was secured by this procedure in two patients with advanced metastatic disease, one of whom was discharged on the 14th postoperative day with the expectation that he would soon be able to return to work. The other, who was partially paraplegic, was greatly improved and remained free from pain for the first three months. Pain then gradually recurred but was relieved by cordotomy at the D-2 level.

Western J. Surg., Obst. & Gynecology, Portland, Ore.

61:491-558 (Sept.) 1953

*Bilateral Adrenalectomy in Treatment of Advanced Neoplastic Disease. W. F. Barker, E. T. Yuhl, J. M. Beal Jr. and others.—p. 491.
Cystic and Cavernous Lymphangioma. J. D. Briggs, F. Leix, W. H. Snyder Jr. and L. Chaffin.—p. 499.
Clinical Study of 56 Duodenal Tumors. E. J. Joergenson, L. A. Weibel and L. E. Keasbey.—p. 507.
Malignant Melanoma: Critical Review of Surgical Problems. L. Dobson and R. A. Walsh.—p. 518.
Pulmonary Embolism. J. M. Farris.—p. 524.
Vital Staining of Lymphatics in Surgery of Carcinoma of Large Intestine. J. Weinberg and H. J. Movius II.—p. 528.
Value of Early Neurolysis in Contused Injuries of Peripheral Nerves. H. A. Brown.—p. 535.
Direct Intracardiac Surgical Relief of Pulmonary Stenosis. W. H. Muller Jr., J. F. Dammann Jr. and W. P. Longmire Jr.—p. 538.
Biological Predeterminism in Gastric Carcinoma: Limiting Factor in Surgical End-Results. I. Macdonald.—p. 547.

Bilateral Adrenalectomy in Patients with Advanced Neoplasms.—The authors report the results of removal of the adrenals and of castration in nine patients with advanced neoplastic disease who had been previously treated by surgery, irradiation, and hormone therapy. Transabdominal bilateral adrenalectomy through a long, curved transverse upper abdominal incision was performed in three patients with melanoma in whom orchiectomy was also performed at the same time. The course of the disease was not altered, and the patients died six, three, and two months after the intervention. The same approach was used in three patients with carcinoma of the breast whose ovaries were removed through the same incision. Pain was relieved in these patients who are still living, although the survival periods of six, five, and one months are too short to be significant. Pain was relieved in only one of three patients with carcinoma of the prostate. The initial treatment in these patients consisted of transurethral prostatectomy, orchiectomy, and estrogen therapy. Two have died seven and three months after adrenalectomy was performed through separate extraperitoneal flank incisions in one stage. The third is still alive six weeks after the adrenal glands were removed in two stages using the flank approach. The future course of patients with advanced neoplastic disease who are benefited by bilateral adrenalectomy is uncertain, since the regression of the tumor, whenever attained, is not permanent. The intervention is only an aggressive form of palliation for these patients. Hypotensive crises in the immediate postoperative hours may be treated with pressor agents such as arterenol. Generally it is possible to reduce the cortisone dosage to a maintenance level of 50 mg. daily within the first week. Neither diabetes nor hypertension is a contraindication to adrenalectomy if the renal function is not impaired. The intervention is contraindicated in patients with pronounced impairment of the renal function.

FOREIGN

Acta Neurologica et Psychiatrica Belgica, Brussels

53:417-486 (July) 1953. **Partial Index**

Free Disk Hernia. L. Ectors.—p. 417.
*Familial Incidence and Predisposing Factors in Encephalitis of Smallpox Vaccination. G. André-Balisaux.—p. 438.
Tumors of Posterior Fossa with Supratentorial Symptomatoloy. R. Van den Bergh.—p. 472.

Familial Incidence and Predisposing Factors in Postvaccination Encephalitis.—Observations by others have shown (1) the existence of a familial predisposition to neurological or psychic sequelae of exanthemas; (2) the possibility that a new infection may reactivate disturbances seen in the course of a preceding exanthema; and (3) the necessity of taking old craniocerebral traumas sustained in earliest infancy into consideration when interpreting the nervous frailty of certain patients, even though they show no signs of deficit. Similar findings have been reported in patients with postvaccination encephalitic symptoms of neural impairment. The family antecedents and electroencephalographic tracings of the healthy brothers and sisters of patients with postvaccination encephalitis were therefore studied in an effort to discover subclinical signs of cerebral impairment capable of causing future disturbance. The first family consisted of the father, aged 35, healthy; the mother, 32, delicate, slightly nervous, with a tendency toward anemia; and three sons, 13, 10, and 9 years old. The eldest son had encephalitis following smallpox vaccination at the age of 9; marked sensitivity to hyperpnea was the only residual electroencephalographic disturbance. The second son was studied during an attack of encephalitis. The first tracing, made 14 days after vaccination and 10 days after the first signs of encephalitis, showed pronounced slowing and numerous delta waves with clear aggravation during hyperpnea. The second tracing, made 10 days later, was still disturbed, but the third, made one month after the onset of encephalitis, was normal for a child of the patient's age and remained stable during hyperpnea. The third son had never been vaccinated and had normal tracings. The second family was composed of healthy parents, a sister, and four brothers, aged from 20 to 30 years. The oldest brother and the sister were not examined. Two of the other brothers had no neurological complications in the course of vaccination, but presented electroencephalographic abnormalities that could be considered signs of clinically silent changes in the nervous system. The third had meningoencephalitis after revaccination at the age of 22. Electroencephalographic examination showed changes similar to those found in his brothers, but very much more pronounced. These findings indicate the existence both of a familial predisposition to cerebral reactions and of predisposing factors, such as psychic and somatic trauma or toxic infection. Conjunction of the predisposition and the predisposing factors would produce sensitization of the central or peripheral nervous system resulting in a "neuroallergic" reaction. Electroencephalography is apparently valuable as a method of detecting subclinical anomalies favoring the appearance of postvaccination encephalitic complications in predisposed families.

Archives of Disease in Childhood, London

28:247-342 (Aug.) 1953. ***Partial Index***

Crossed Laterality: Study in Its Significance and Treatment in Ordinary School Life. R. A. H. Pearce.—p. 247.
Accidental Poisoning in Childhood. J. O. Craig and M. S. Fraser.—p. 259.
Estimation of Blood Pressure in Childhood with Special Reference to Choice of Standard Cuffs. H. Sainsbury.—p. 268.
Fourteen Cases of Idiopathic Myocarditis in Infants and Children. H. Williams, R. N. O'Reilly and A. Williams.—p. 271.
Left Auricular Enlargement in Endocardial Fibro-Elastosis. J. L. Freer and W. J. Matheson.—p. 284.
Acute Isolated Myocarditis in Newborn Infants. J. M. Drennan.—p. 288.
Thirty-Eight Cases of Haemolytic Disease of Newborn. Z. Shamir and J. Gurevitch.—p. 292.
Renal Thrombosis Complicating Pink Disease: Cure by *Nephrectomy.* W. G. Q. Mills and T. K. Owen.—p. 300.
Haemorrhagic Infarction of Kidney Treated by Nephrectomy. C. D. Clark and J. D. Pickup.—p. 302.

Australian and New Zealand J. Surgery, Sydney

23:1-80 (Aug.) 1953

Talcum Powder Granuloma. N. Johnson.—p. 1.
Malformations of Anus. F. D. Stephens.—p. 9.
Mechanism of Circumflex and Other Nerve Injuries in Dislocation of Shoulder, and Possible Mechanism of Nerve Injuries During Reduction of Dislocation. G. W. Milton.—p. 25.
Dysgerminoma of Ovary. F. Forster.—p. 31.
Ano-Rectal Suppuration. E. S. R. Hughes.—p. 41.
*Vagal Body and Its Tumour. J. H. W. Birrell.—p. 48.
Surgical Pathology of Carcinoma of Lung. J. Borrie.—p. 55.
Value of Exposure in Local Burns Therapy. J. T. Hueston.—p. 63.
Gall-Stone Ileus. R. H. Stanistreet.—p. 73.
Intestinal Obstruction Due to Impacted Gall-Stones. L. Janes.—p. 77.

Vagal Body and Its Tumor.—The patient, a 36-year-old woman, complained of a swelling high up in the right side of her neck which had first appeared 11 years previously. A soft rubbery swelling was observed in the right lateral wall of the pharynx, and this had pushed the wall of the oropharynx almost to the midline of the palate. On the outer surface of the neck a similar swelling, continuous with that in the pharynx, presented between the angle of the mandible and the mastoid process. The tumor was deep to the sternocleidomastoid muscle and showed no fluctuation. Exploration of the tumor was carried out through an incision parallel to the anterior border of the sternocleidomastoid muscle after which the muscle was divided transversely at its upper insertion. The tumor was covered by a network of blood vessels and this extreme vascularity made its exposure difficult. A cavity the size of a large hen's egg, through which the carotid artery ran a sinuous course, remained after the removal of the tumor. The patient's postoperative course was uneventful except for a right recurrent laryngeal nerve palsy and paralysis of the right half of the tongue. At the time of writing this report the patient remained well. On pathological examination of the removed tumor it was classified as a small mass of hyperplastic tissue closely resembling the carotid body in its structure, and situated in or near the ganglion nodosum of the vagus nerve. The normal vagal body is a somewhat diffuse lobulated mass of vascular cellular tissue; its structure and innervation has been shown to be similar to that of the carotid body. The vagal body is grouped with the carotid body and similar masses of tissue as chemoreceptor bodies, which are not considered to have any relation to the chromaffin system. The general close histological resemblance of the tumor to the normal vagal body in conjunction with the encapsulation of the tumor, paucity of mitoses, and apparent benign clinical course were sufficient to make the author cautious of accepting any claims of neoplasia. As far as can be ascertained the present case is the fourth of a vagal body tumor to be reported in the literature.

Boletín Médico del Hospital Infantil, México

10:103-234 (April 1) 1953. **Partial Index**

Enzymatic Activity of Duodenal Contents in Children with Third Degree Malnutrition. F. Gómez, R. Ramos Galván, J. Cravioto and others.—p. 106.
Some Considerations on Pathogenesis of Brucellosis. F. López Clares and A. Pérez Ramírez.—p. 160.
*Mucoepidermoid Carcinoma of Parotid Gland: Case in Girl 8 Years Old. H. Salce, A. Aguirre, M. Salas and others.—p. 166.

Mucoepidermoid Carcinoma of Parotid Gland.—Mucoepidermoid carcinoma of the parotid gland is very rare in children. Five cases have been reported in the American literature. The case reported in a girl 8 years old is the first reported in the Mexican literature. The parotid tumor grew slowly for one year. It was painless at first and later became very painful and opened in two fistulas. Partial resection of the parotid gland was made. Histological study of the surgical specimen showed a mucoepidermoid carcinoma with formation of a large cyst and of a large number of small cysts. The patient was in satisfactory condition after the operation. However, in less than a month she complained of the appearance of a hard nodule in the sternocleidomastoid muscle. A biopsy proved that the nodule was of the same type as the tumor previously removed. Total parotidectomy with radical dissection of the tissues of the neck, in a block, was made.

The tumor included numerous small cysts. Metastases were identified in the lymph nodes of the lateral chain of the neck. Local irradiation was given in the postoperative period. Only a few months after the operation the patient had gained some weight. Sequelae from the operation and the irradiations are peripheral facial paralysis and local edema. A prognosis cannot be ventured, because of the lack of experience with tumors of this type in children.

British Journal of Cancer, London

7:157-282 (June [No. 27]) 1953. **Partial Index**

Significance of "Early Diagnosis" in Breast Cancer: Study of Some Common Usages of the Term. L. Kreyberg.—p. 157.
Chronic Iodine Deficiency as Cause of Neoplasia in Thyroid and Pituitary of Aged Rats. F. Bielschowsky.—p. 203.
Hormonal Background of Ovarian Experimental Tumourigenesis in Guinea-Pig. R. Iglesias, E. Mardones and A. Lipschutz.—p. 221.
Radiobiology of C3H Mouse Mammary Carcinoma: Comparative Radiosensitivity of Tumour Prior to Implantation and of Established Tumour in Situ. A. Cohen and L. Cohen.—p. 231.
Behaviour of Ascites Tumour Cells in Vitro and in Vivo. I. Lasnitzki. —p. 238.
Distribution of Radioactivity Following Administration of Sulfur 35-Labelled Disodium Fluorene-2, 7-Disulfonate in Mice Bearing Transplantable Stomach Carcinoma. M. F. Argus.—p. 273.

British Journal of Radiology, London

26:441-496 (Sept.) 1953. **Partial Index**

Gastro-Oesophageal Regurgitation and Oesophageal Hiatus Hernia with Special Reference to Differential Diagnosis of Angina Pectoris. B. Donnelly.—p. 441.
Radiation Dosimetry with Scintillation Detectors. E. H. Belcher.—p. 455.
New Method of Treatment for Arthritis. N. S. Finzi.—p. 488.
Osteitis Condensans Ilii. C. F. Hutton.—p. 490.

British Medical Journal, London

2:521-578 (Sept. 5) 1953

Bronchial Carcinoma: Incidence and Aetiology. R. Doll.—p. 521.
Some Apparent Anomalies of Potassium Metabolism. I. W. MacPhee. —p. 528.
Gastric Ileus Due to Potassium Depletion After Gastro-Enterostomy. J. S. Logan.—p. 532.
Paroxysmal Paralytic Myoglobinuria. S. D. Elek and H. F. Anderson. —p. 533.
Splenectomy in Three Cases of Myelophthisic Anaemia. C. Merskey and O. E. Budtz-Olsen.—p. 537.
Value of Primidone in Epilepsy. C. W. M. Whitty.—p. 540.
Paraplegia Due to Paget's Disease (Osteitis Deformans). R. G. Robinson. —p. 542.
Recurrent Gall-Stone Ileus. J. A. Macfarlane.—p. 544.

Bull. World Health Organ., Geneva

9:171-310 (No. 2) 1953. **Partial Index**

Preliminary Studies of Iodine Metabolism in Patients from Area of Endemic Goitre. J. B. Stanbury.—p. 183.
Autoradiographic Study of Simple Goitre. S. Taylor.—p. 197.
Studies on Stability of Iodine Compounds in Iodized Salt. F. C. Kelly. —p. 217.
Preparation of Iodized Salt for Goitre Prophylaxis. J. C. M. Holman. —p. 231.
History of Prevention of Endemic Goitre. O. P. Kimball.—p. 241.

Chirurg, Berlin

24:385-432 (Sept.) 1953. **Partial Index**

*Additional Studies on Differences of Behavior of Temperature and Pulse Between Patients with Postoperative Thromboembolism and Those Operated on Without this Complication. H. Peters, H. Döring and P. Seulberger.—p. 385.
Technique and Value of Portography for Diagnosis of Portal Hypertension and Its Treatment. E. Ungeheuer.—p. 394.
Operative Trauma of Inferior Vena Cava and Problem of Air Embolism. S. Petković.—p. 399.

Temperature and Pulse of Surgical Patients With and Without Postoperative Thromboembolism.—An abnormal drop in temperature and discrepancies between temperature and pulse were previously described by the authors as a characteristic sign of threatened thromboembolism. The incidence of these symptoms was reported in 288 surgical patients with postoperative thromboembolism and in 288 patients without this complication. Absolute values of measurements of temperature and pulse before the surgical intervention and during the postoperative course in these two groups of patients are reported and compared in the present paper. Results showed that high temperature and high pulse rate in patients with an uncomplicated postoperative course corresponded with the sympathetic phase that is elicited exclusively by the operative stimulus. The increase of the sympathetic tonus, therefore, induced a simultaneous increase of temperature and pulse rate. Patients with threatened thromboembolism already presented a greater lability of the pulse before the operation than those in whom there is no threat of thromboembolism. The impending surgical intervention as well as other psychic excitement during the day preceding the operation are to be considered as a stimulus which may increase the pulse rate in patients with a labile autonomous nervous system. A high increase of temperature but not of pulse rate in the sympathetic postoperative phase characterized the patients less than 60 years of age with threatened thromboembolism. Patients over 60 with threatened thromboembolism did not show a high increase of temperature in the sympathetic phase. There were no differences in the pulse rate between the patients in the sympathetic phase. A high pulse rate with very low temperature in the parasympathetic phase strongly indicated threatened thromboembolism. Temperature and pulse depend on the function of the central-autonomous nervous regulation apparatus. This apparently is disturbed in patients with threatened thromboembolism.

Clinica Terapeutica, Rome

5:1-99 (July) 1953. **Partial Index**

*Ganglioplegics in Essential Hypertension. C. Bartorelli and R. Rumolo. —p. 3.
*Ion-Exchange Resins. I. Pannacciulli.—p. 40.

Ganglioplegics in Essential Hypertension.—Hexamethonium salts were given intravenously, intramuscularly and orally to 60 patients with essential hypertension. The systolic and diastolic pressures dropped in all the patients. The hypotensive effect was correlated with the route of administration. It was the same when hexamethonium was given intramuscularly or intravenously to patients in the lying position. There was a greater pressure fall when the drug was given intravenously to patients in the standing position, but the hypotensive effect lasted longer when it was administered intramuscularly. The individual response to the drug varied, especially when it was given orally. Orthostatic collapse is the major side-effect of hypotensive therapy, and it is commonest when the parenteral route is used. It does occur also after oral administration of the drug. Side-effects are more frequent after oral administration, and they affect mainly the digestive tract. Severe constipation is the commonest. In many cases this side-effect may be prevented with laxatives or neostigmine (Prostigmin) although these may interfere with the hypotensive therapy. Experimental and clinical data indicate that the cerebral, coronary, and renal circulations are not impaired if the hexamethonium-induced hypotension is not too pronounced. Great caution should be taken before instituting this therapy in patients with arteriosclerotic or other type of vascular lesion. Caution should also be used in patients with diabetes and in pregnant women. In the former the therapy potentiates the hypoglycemic effect of insulin and in the latter the fetus may reabsorb some of the hexamethonium from the amniotic fluid, since the placenta barrier is permeable to this ganglioplegic. This therapy is contraindicated in patients with angina pectoris, cardiac infarct, and renal complications.

Ion-Exchange Resins.—The author reports on the ion-exchange resins and their importance in medicine. The anion-exchange resins have given good results in the treatment of gastric ulcer and hyperacidity of pregnancy. The cation-exchange resins have greater importance because of their capacity to restrict the absorption of sodium. They are indicated mainly in the treatment of edema if combined with a moderate sodium intake. Good results have been reported in patients with edema due to heart insufficiency, liver cirrhosis, and renal disease. They were also beneficial in pregnant women with eclampsia and potential edema. Their use has been attempted in patients with hypertension, potassium deficiency due to cortisone therapy, and hyperpotassemia. They should be administered orally in doses of 15 gm. three to four times a day near meals in conjunction with a moderately low sodium intake (2 to 5 gm. daily). The best results are obtained when they are administered in repeated courses of 5 to 10 days with a treatment-free interval of 2 to 3 days between each course. The side-effects of treatment with resins are acidosis, especially in patients with renal insufficiency, potassium deficiency, and severe constipation. Granular casts with traces of albumin have been found by some authors in the urine of persons and animals treated with resins, but since they did not find any organic alteration in the tubules they attributed them to the increased urinary acidity. Tremor and psychic effects may follow administration of resins to patients with liver disease. Sulfonamides, saline purgatives, and salt substitutes should be avoided during administration of resins, and digitalis should be used with caution.

Deutsche medizinische Wochenschrift, Stuttgart

78:1205-1244 (Sept. 4) 1953. **Partial Index**

Lymphogenous Spread of Disease. K. Bingold and W. Trummert.—p. 1205.

Symptomatology of Acute Perforation of Septum. G. Jantzen.—p. 1210.

Pre- and Postoperative Functional Aspect in Intervention on Valves of Left Heart and in Cardiolysis. W. Bolt, H. W. Knipping, H. Valentin and H. Venrath.—p. 1214.

*Treatment of Neurosyphilis with Penicillin. H. J. Dammann and E. Schmidt.—p. 1231.

Penicillin in Neurosyphilis.—In 1950, 12 million units of penicillin G sodium were given in aqueous injections of 200,000 units over a period of 10 days to 29 women and to 19 men with neurosyphilis. Of the 48 patients, 18 had cerebral and cerebrospinal syphilis respectively, 1 had cerebral gumma, 12 tabes, 5 progressive paralysis, 1 syphilitic meningitis, 1 syphilitic atrophy of the optic nerve, and 9 had latent syphilis with positive cerebrospinal fluid. Except for a few, these patients did not receive any further treatment up to 1952 when follow-up examinations were performed on 20 of the 48 patients. Pleocytosis and increase of the total protein values had been reduced within six months after the termination of the treatment in most of the patients, and these values had remained low without further treatment. As compared to results of the first examination six months after the termination of the penicillin treatment, the number of cells was reduced in one additional patient, and reduced total protein values were observed in two additional patients. The stained test that had revealed improvement in 17 patients six months after the termination of the treatment did not show any additional improvement. The reaction of the cerebrospinal fluid to the Wassermann test had within half a year after the treatment become negative in two cases, and within two years in two additional cases. The reaction of the blood to the Wassermann test showed a similar behavior. All the patients stated that they felt better subjectively and that their work capacity was improved. Objective neurological and psychiatric findings were not changed. The authors state that penicillin proved adequate for the treatment of neurosyphilis and metasyphilis. Improvement in the cerebrospinal fluid occurs within the first six months. Normalization of the cerebrospinal fluid within the next one to two years was observed in only a few cases. Comparison of the results obtained with the penicillin therapy in the 48 patients with those obtained in 17 patients who had received combined neoarsphenamine, bismuth, and malaria therapy indicated that the results were of practically equal value. The advantages of the penicillin treatment consist of the simpler application and the much rarer occurrence of complications. The much shorter stay in the hospital required for the penicillin treatment as compared to the combined chemotherapy and malaria therapy is an additional factor in favor of the penicillin treatment. The authors believe that preference should be given to penicillin therapy. Combined treatment with penicillin and bismuth is at present the method of choice.

Journal of Clinical Pathology, London

6:99-172 (May) 1953. **Partial Index**

Separation of Serum Pigments Giving Direct and Indirect van den Bergh Reaction. P. G. Cole and G. H. Lathe.—p. 99.

Diurnal Variation of Serum Iron Level in Erythropoietic Disorders. J. C. S. Paterson, D. Marrack and H. S. Wiggins.—p. 105.

Significance of Blood and Cerebrospinal Fluid Urea Levels Estimated After Death. W. J. Jenkins.—p. 110.

Analysis of Calculi Using Microchemical Methods. P. F. Holt and A. L. Tárnoky.—p. 114.

Comparison of Techniques for Measuring Isoniazid Resistance of Tubercle Bacilli. D. A. Mitchison.—p. 118.

Use and Abuse of Jungmann's Method for Liquefaction of Tuberculous Sputa. K. Anderson, J. A. Hughes and R. Knox.—p. 124.

Encephalopathy Following Administration of Streptomycin and Para-Amino-Salicylic Acid. J. B. Cavanagh.—p. 128.

Tuberculosis as Necropsy Room Hazard. G. S. Smith.—p. 132.

Rhabdomyosarcoma of Breast. R. W. Evans.—p. 140.

Case Surviving Six Months After Traumatic Rupture of Aorta. R. Rodda.—p. 145.

Comparative Sensitivity of Male Toad Pregnancy Test and Friedman Test. G. M. Jeffree.—p. 150.

Journal Obst. & Gynaec. Brit. Empire, Manchester

60:445-604 (Aug.) 1953. **Partial Index**

*The Thyroid Gland and Its Relation to Menstrual Cycle of the Baboon (Papio Ursinus). J. Gillman and C. Gilbert.—p. 445.

*Spread of Staphylococcus Aureus in Maternity Department in Absence of Severe Sepsis. M. Barber, B. D. R. Wilson, J. E. Rippon and R. E. O. Williams.—p. 476.

Value of Vaginal Smear to Gynaecologist. R. M. Graham.—p. 483.

Foetal Risk in Breech Presentation. D. Daley and A. M. Michael.—p. 492.

Tertiary Syphilis of Uterus and Adnexa. M. K. Lawlor and K. S. Rodan.—p. 502.

Bleeding in Placenta Praevia. S. Bender.—p. 508.

Phenomena Correlated with Ovulation as Guides to Appraisal of So-Called Safe Period. W. T. Pommerenke.—p. 519.

Constriction of Umbilical Cord by Amniotic Band: Rare Cause of Intra-Uterine Death. A. S. Duncan.—p. 529.

Ovarian Cysts in Newborn Infant of Diabetic Mother. G. M. Hamilton.—p. 533.

Carcinoma and Tuberculosis of Fallopian Tubes. H. G. Wolskel, V. H. Barnett and M. Symons.—p. 535.

Cerebral Metastases from Cervical Carcinoma. J. D. Andrew.—p. 545.

Relation Between Thyroid and Menstrual Cycle in Baboon.—The thyroids of 10 adult female baboons were completely removed at various stages during the menstrual cycle. The baboons were over 7 years of age, having passed through puberty some four years previously. The cycles of each animal were followed by daily inspection and measurement of the sex skin for at least one year and in some instances for three to four years before thyroidectomy. The rhythmical changes in the perineum, the duration of the component phases of turgescence and deturgescence, as well as the total length of the cycle of the 10 baboons, fell within the normal range. After thyroidectomy the parathyroid glands were carefully dissected out of the thyroid, and were reembedded in the deep fascia of the neck. The possibility that tiny fragments of thyroid tissue remained after surgical ablation could not be discounted. Ten normal female adult baboons over 7 years of age constituted the control series. Disturbances in the menstrual rhythm occurred in the 10 female baboons whose thyroids were removed, which indicates that the thyroid gland is closely connected with the regulation of the normal menstrual cycle. Day-to-day examination of the perineal reactions provided evidence, first, that the removal of the thyroid gland profoundly modified ovarian activity and, secondly, that ovarian function, as reflected by the perineum, ranged from inhibition, associated with suppression of perineal cycles, to interference with ovulation and persistence of estrogen stimulation with irregular perineal cycles. Although the menstrual cycle was disturbed in all baboons whose thyroids were removed, the exact disturbance varied from one baboon to another. From a reconstruction of the events encountered in the endometrium, it was evident that after thyroidectomy a rhythm did occur, albeit strikingly different from that seen in the normal baboon. Attention was drawn to the difficulty of assessing the endocrine function of the ovaries from the structure of the endometrium. In attempts to unravel the complex and variable reactions of the uterus, perineum and ovaries in baboons following thyroidectomy, consideration was given to the role of the pituitary gland. Suggestive evidence was available to the effect that derangement of ovarian function observed in such baboons was the consequence of a widespread metabolic disturbance involving not only a modified gonadotrophic activity of the pituitary but also a modified responsiveness of the ovaries to the pituitary hormones.

Spread of Staphylococcus in a Maternity Department.—What determines an outbreak of severe sepsis such as pemphigus neonatorum in a maternity department or infants nursery where Micrococcus pyogenes var. aureus (Staphylococcus aureus) is prevalent? To answer this and other still unsolved problems, an investigation was undertaken, which aimed to ascertain, first, whether strains of M. pyogenes var. of aureus spread from nose to nose in a community in the absence of severe sepsis as readily as when sepsis is present? Secondly, whether all strains of M. pyogenes var. aureus isolated from hospital communities are of potentially equal virulence and, if not, can this be demonstrated in the laboratory as claimed by Knott and Blaikley? The department studied had had no severe cases of staphylococcic sepsis for a considerable time, although cases of mild conjunctivitis were common. Over a period of four months swabs were taken from the anterior nares of mothers on admission and on discharge and of babies on discharge. Similar swabs were taken from the nursing and the medical and domestic staff on three occasions during the investigation. A number of swabs were also taken from mothers during the course of their stay and from various samples of dust and bedding. There seemed to be evidence that certain strains of potentially pathogenic staphylococci were spreading round the department. Over half the nurses were nasal carriers of penicillin-resistant M. pyogenes var. aureus and the predominating phage-type was 52A. Many mothers in the short period of 10 days apparently picked up penicillin-resistant strains of M. pyogenes var. aureus of phage-type 52A. The noses of 75% of the babies became colonized with M. pyogenes var. aureus; in nearly 90% of carriers the strain isolated was penicillin-resistant and in a third of the cases it was phage-type 52A. Study of the type of strains isolated from babies, mothers, and nurses indicates that the babies picked up staphylococci more readily from the nurses than from their mothers. No definite answer can be given to the question of why there was no severe sepsis, despite the fact that it must be assumed that potentially virulent strains of penicillin-resistant M. pyogenes var. aureus were spreading. From the bacteriological point of view it is bad to herd babies together in a ward, into which a nurse goes to attend to them one after another. In the department here studied there was not even running water in the baby wards, so that in order to wash between handling each baby the nurse had to leave the room. It was not her practice to change her gown between attending to each infant. A rearrangement of maternity departments with separate units for each mother and baby seems desirable. Recent observations have shown that both the total nasal carriage rate of M. pyogenes var. aureus and the incidence of resistant strains are much lower among babies born in the comparative privacy of their own homes than among babies born in hospitals.

Lancet, London

2:461-524 (Sept. 5) 1953

To the Newly Graduated: Valedictory Address. S. Smith.—p. 461.
Basic Science: Some Observations in the United States. D. C. Sinclair.—p. 463.
Back to Front? Possible Reorientation of Medical Curriculum. A. C. Dornhorst.—p. 468.
Teaching of Social and Preventive Medicine: Some Recent Developments. J. Pemberton.—p. 469.
Models in Medical Teaching with Note on Use of New Plastic. L. H. Hamlyn and P. Thilesen.—p. 472.
On Case-Reports. R. Whitehead.—p. 475.
Development of an Anaesthetic Service Overseas: Organisation and Teaching. L. T. Scott.—p. 478.
Recording Progress in Dissecting-Room: Visual Display Method. D. C. Sinclair and H. D. Darcus.—p. 482.
"How-to-do-It" Teaching Film: An Experiment in Its Use. P. N. Cardew, W. H. Hughes and P. Collard.—p. 484.

Medical Journal of Australia, Sydney

2:41-80 (July 11) 1953. Partial Index

*Fluorine and Dental Caries. A. B. P. Amies and P. Pincus.—p. 41.
Lead Hazard in Aviation Industry. F. S. Parle.—p. 47.
Granuloma Inguinale. S. D. Watsford and L. W. Alderman.—p. 50.
Prevalence of an Abnormal Breathing Mechanism in Cases of Respiratory Allergy. B. Gandevia.—p. 52.
Bilateral Carcinoma of Breast. J. M. Yeates.—p. 54.
Another Record of Human Diphyllobothriid in Australia. D. F. Sandars.—p. 55.
Renal Carbuncle: Report of Five Cases, with Some Remarks on Aetiology and Treatment. T. F. Rose.—p. 58.
Lead Intoxication in Three Families. A. Bridge.—p. 62.

Fluorine and Dental Caries.—Amies and Pincus discuss fluoridation of water supplies as a measure for prevention of caries. In discussing certain biochemical aspects of fluorine in water and certain articles of diet, Amies and Pincus direct attention to the influence of the drinking of tea on the intake of fluorine in Australia and New Zealand. As an example, they cite Dunedin, New Zealand, where the municipal water supply contains 0.05 ppm of fluorine. From ordinary infusions of tea (without milk) made with this water, it was calculated that tea could contribute from 0.45 to 0.93 mg. of fluorine per day when the tea ration allowance was 8.1 gm. per day. This would indicate that the average person can obtain approximately 1 mg. of fluorine per day from tea. This amount has been suggested as the optimal intake of fluorine for preventive effects. A person who is a heavy consumer of tea without milk, therefore, cannot afford to take in more fluorine than that already provided by tea, without exceeding the suggested optimum. Current investigations in the United States have demonstrated a temporary partial control of dental caries in young children by the artificial fluoridation of municipal water supplies. Nothing more can be claimed at present. Adequate dental treatment and oral hygiene continue to be essential. Investigations in England in areas in which fluorides occur naturally in water revealed that the caries incidence in 12-year-old children who consumed such drinking water was less than that in control groups; but a survey of 15-year-old children indicated an equal incidence of caries in both groups. This merely demonstrated a three year lag. It is also pointed out that fluorine is a powerful inhibitor of enzymes and a bactericidal agent for some bacteria. The actual chemical form in which sodium fluoride exists after addition to municipal water supplies has not been determined; its physiological ability to be assimilated may be of a different order than that of fluorine occurring naturally in water. The cumulative storage of fluorine in the skeleton and the serious effects of toxic fluorosis have been noted in recent years. The difficulty of statistically assessing the incidence of caries in young children is discussed.

2:81-120 (July 18) 1953

*Regional Non-Bacterial Suppurative Lymphadenitis and Its Relationship to "Cat-Scratch Disease." J. I. Tonge, J. A. Inglis and E. H. Derrick.—p. 81.
Cerebral Astrocytic Gliomata, with Report of Case. I. J. Hunter.—p. 85.
Use of Paraldehyde in Alcoholic Delirium Tremens. D. G. Steyn.—p. 91.
Summary of All Cases of Ante-Partum Haemorrhage in Public Section of Brisbane Women's Hospital During Period from July 1, 1951, to June 30, 1952. J. F. Dunkley and R. Thatcher.—p. 93.
Air Evacuation of Casualties in Korean War. N. M. Kater.—p. 94.
Continuous Immobilization of Joints in Rheumatoid Arthritis. M. Kelly.—p. 95.

Regional Lymphadenitis and "Cat Scratch Disease."—During the last two years nine adults and six children with a peculiar regional nonbacterial suppurative lymphadenitis were studied in Queensland. The clinical behavior of these 15 patients and the microscopic detail of the affected glands presented a striking similarity to the lymphadenitis occurring in patients with "cat scratch disease." Of 10 patients from whom a reasonably complete history was obtained, 6 gave a history of contact with cats, and of these, 3 stated that they had been scratched or bitten not long before the onset of the lymphadenitis. All three patients on whom an intradermal test was carried out with the "cat scratch" antigen supplied from London gave a positive reaction. Thus the authors believe that the condition observed in Queensland is identical with the disease described as "cat scratch disease" in America, England, and France. The disease is thought to be caused by a virus of which the cats may act purely as passive carriers. There was no noticeable response of the patients either to sulfonamides or to penicillin, but recovery occurred without sequelae. Although the disease will follow a benign course in most of the cases, there is evidence to suggest that the condition may not necessarily be always benign or localized in character.

Minerva Ginecologica, Turin

5:333-380 (May 31) 1953. **Partial Index**

Histochemical Studies on Polysaccharides of Adrenohypophysis and Considerations on Their Possible Relationships with the Gonadotropic Function. V. Palla.—p. 333.
*Megaloblastic Anemia of Pregnancy: Pathogenetic Study and Personal Contribution. G. Piozzi.—p. 347.
Genital Carcinoma in Elderly Women: 1,169 Cases in Women Over 60. P. Paracchi and L. Luciani.—p. 355.

Megaloblastic Anemia of Pregnancy.—The problem of megalobastic anemia developing during the last months of pregnancy has not been solved. Since the fetus accumulates iron during its intrauterine life and thus alters the systemic iron balance of the mother, there may be a tendency, even if only a potential one, toward a deficiency of iron in the pregnant woman. The constitution of the person must play a great part in this complication. Women who are predisposed to blood diseases have a lesser defensive power against the fetus-placenta toxins which are liberated during pregnancy. Some authors believe that diet alone, even if rich in iron, cannot prevent the onset of anemia in these persons. Lack of vitamins and the action of the estrogens, which are increased during pregnancy, may also be responsible. The changed endocrine balance affects the bone tissue, and these modifications have repercussions on the anatomic and functional balance of the bone marrow. The hemopoietic organs become unable to counterbalance the erythrolysis and erythrocatheresis that are increased during pregnancy, and megaloblastic anemia develops. The author reports on two young women in whom this complication appeared suddenly during the eighth month of pregnancy. Labor began prematurely in both, and blood transfusions were performed. Liver extracts combined with vitamin B_{12} had poor or no effect, but there was a good response to massive doses of folic acid and iron and the blood picture of both patients was much improved. Although blood transfusions and other therapies have improved the prognosis of megaloblastic anemia of pregnancy, its pathogenesis still remains obscure.

Minerva Pediatrica, Turin

5:445-488 (June 30) 1953. **Partial Index**

Chronic Intestinal Intussusception Due to Lymphosarcoma of Ileum Associated with Fibrocaseous Tuberculosis of Mesenteric Lymph Nodes. P. L. Amiotti and B. Possenti.—p. 445.
*Incidence of Tumors in Families of Children with Leukemia. P. L. Amiotti.—p. 449.
Findings and Considerations on Some Cases of Tumors in Children Hospitalized During Last 15 Years in the University of Naples Pediatric Clinic. L. Auricchio and G. Murano.—p. 451.

Cancer in Families of Children with Leukemia.—The author investigated the relationship between malignant tumors and leukemia. He analyzed the genealogical tree of 75 children with leukemia treated at the Gaslini pediatric clinic from 1942 to 1952 and of 75 children who did not have the disease. He found one case of cancer in the family of nine children with leukemia and two cases in the family of one child. Cancer was never present in the parents of these children. It was found in seven of the paternal and four of the maternal grandparents. The incidence of neoplasms was higher in the families of the 75 control children, with one case of cancer in the family of 16 of them, two cases in the family of one, and three cases in the family of one. Cancer was found in the father of one child and in 13 of the paternal and 7 of the maternal grandparents of these children.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

97:1817-1884 (July 11) 1953. **Partial Index**

Internal and Psychosomatic Medicine. G. F. van Balen and G. A. Lindeboom.—p. 1823.
*Blood Pressure in Patients with Steatorrhea. C. D. de Langen.—p. 1830.
Fatal Subprimary and Postprimary Tuberculosis in Rotterdam During 1951 and 1952. M. Straub.—p. 1832.
Experiences with Maurer's Open Treatment of Tuberculous Cavities. A. M. Hendriks.—p. 1837.
Transurethral Removal of Low-Seated Ureteral Calculi Under Paracystoscopic Control. C. L. A. Grove.—p. 1845.
Benign Lymphoreticulosis as Cat Scratch Disease. H. B. G. Breijer and R. Gispen.—p. 1849.

Blood Pressure in Patients with Steatorrhea.—De Langen investigated the blood pressure in patients with sprue, since Salvesen, in determining the blood pressure of 84 patients with idiopathic or symptomatic steatorrhea, had observed that nearly all had subnormal blood pressure and that the mean pressure in all was considerably below that of a group of healthy persons of the same ages. De Langen's case material differed from that of Salvesen, since, among 136 patients with steatorrhea studied by him, there were 102 with tropical sprue. Salvesen apparently had not had a single patient with tropical sprue. Despite this difference, however, de Langen was able to confirm that his patients, like those of Salvesen, had low or very low blood pressure. Salvesen had suggested that hypotension might be due to the fact that these patients have a disturbance in the absorption of a substance, probably a lipid, which is essential for the maintenance of an adequate blood pressure. De Langen, however, suggests that the hypotension is not the result of the steatorrhea but rather that the sprue syndrome develops as the result of a circulatory deficiency of the intestinal wall.

Nordisk Medicin, Stockholm

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Urinary Incontinence in Women. A. Ingelman-Sundberg.—p. 1149.
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Duration of Tuberculin Allergy After BCG Vaccination in Persons Isolated in Institutions. O. Wasz-Höckert and M. Donner.—p. 1166.
Pneumoperitoneum-Disputed Form of Collapse Treatment in Pulmonary Tuberculosis. G. Forestier.—p. 1168.

Follow-Up of Patients with Exophthalmic Goiter Following Subtotal Thyroidectomy.—Seven postoperative deaths occurred among 227 patients treated with subtotal thyroidectomy after preoperative diiodotyrosine treatment. Of the 33 who sent information by letter on the follow-up from 1 to 10 years after the operation, only three reported inability to carry on their daily work. Dollerup and his associates found the results good in 94% of the 150 patients examined in the hospital, with 28.7% fully recovered, 46% with full ability to work and normal metabolism and slight residual symptoms, and 19.3% better able to work than before the operation; in 6% the capacity for work was reduced and there were marked subjective and objective symptoms. Shorter duration of the disease before operative treatment seemed to affect the outcome favorably. Of the total 51 with cardiac symptoms on the follow-up, 41 had normal capacity for work; cardiac symptoms were noted in only 27 of the 39 who had cardiac symptoms before operation. True relapse occurred in 4%.

Tubercle, London

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Principles and Results of Training and Employment at Papworth. O. Clarke.—p. 206.
Observations on Radiological Appearances of Undiagnosed Bronchiectasis. N. Wynn-Williams.—p. 212.
Tension Cavitation at Site of "Healed" Tuberculous Primary Focus: Case Report. J. D. P. David.—p. 217.
Case of Self-Mutilation Presenting as Haemoptysis. B. Mann.—p. 220.

BOOK REVIEWS

Medical Schools in the United States in Mid-Century. By John E. Deitrick, M.D., and Robert C. Berson, M.D. Cloth. $4.50. Pp. 380, with 14 illustrations. McGraw-Hill Book Co., Inc., 330 W. 42nd St., New York 18; 95 Farringdon St., London, E.C.4, 1953.

This volume constitutes the report of the Survey of Medical Education, which was organized in 1947, sponsored, and financed by the American Medical Association, the Association of American Medical Colleges, and the W. K. Kellogg Foundation. It is a factual self-analysis and evaluation of medical education in the United States at mid-twentieth century, based on a survey of 41 carefully selected representative institutions. Conclusions are based on facts and opinions obtained from deans, faculties, and medical students and represents an authoritative current evaluation of medical education, its leadership, function, and finances in the United States. The increasingly complex nature and ever-widening scope of responsibilities and activities of today's medical school are well portrayed and analyzed. Modern medical school functions are indicated to be education, research, and service, so interwoven in most instances that the costs of medical education have not been clearly differentiated from the research and service aspects. The dangers to medical education itself of overemphasis of either research or service activities are clearly implied and the necessity of maintaining a proper balance of these activities emphasized.

Medical school finances are examined in detail, and an analysis is made of the funds involved and how they are spent. Medical schools in operation are evaluated from the standpoint of administration, medical school-hospital relations, departments, faculty, and student admisison problems. The undergraduate curriculum has been subjected to careful scrutiny, and the responsibilities of medical schools in advanced education and training are discussed at length. The authors have presented "a summing up" in their final chapter that will undoubtedly provoke much discussion among medical educators and others interested in this field. This chapter focuses attention on the following questions: What is medical education? What is a medical school, and what are its responsibilities? Should research be the major goal of a medical school and receive the greatest financal support? What is the goal of the medical school in providing medical care?

It is difficult to separate some phases of education and training, and what different medical schools may do in this regard will vary greatly. Locale, finances, service functions, and many other factors naturally emanating as part of different educational programs present variables that continue to keep medical schools from becoming stereotyped. The size of the school and the complexity of organization may be significant problems but need not transcend quality if all factors are properly adjusted. Tradition and authority will continue to be hurdles to progressive curriculum adjustments until broader perspectives are attained by those interested in medical education and departmental barriers are minimized. Certain trends leading young physicians into a philosophy of dependence rather than independence in leadership are pointed out.

There are useful appendixes evaluating student opinions on college preparation and their medical school impressions, analyzing current medical school administrative problems, outlining the distribution of graduates from four-year medical schools and the distribution of libraries, postgraduate education, and finances. This new survey of medical education, like the Flexner Report that appeared in 1910, will be of value to the medical schools and all those interested in medical education, by stimulating further analysis and advances in this field. Today's problems are vastly different from those in 1910 but, nevertheless, present intriguing challenges. In 1910 the Flexner Report brought about a badly needed revolution in medical education that resulted in placing it on an increasingly high plane over the years. The current report tends to focus the complex problems of education, research, and service in medical education today and makes recommendations that should be seriously considered by medical schools and universities in their efforts to solve them. The volume should be read and thoughtfully analyzed by all who are interested in medical education and its ramifications.

Medical Education Today: Its Aims, Problems and Trends. By Joseph C. Hinsey, Director, New York Hospital-Cornell Medical Center, New York City, et al. Edited by Dean F. Smiley, Secretary, Association of American Medical Colleges, Chicago. Paper. $1.50. Pp. 123, with 7 illustrations. The Journal of Medical Education, Association of American Medical Colleges, Rm. 1001, 185 N. Wabash Ave., Chicago 1, 1953.

This is a compilation of papers that appeared in recent issues of the *Journal of Medical Education* dealing with important problems confronting medical schools and educators in this dynamic period of readjustment. The seven articles were written by leaders in the field of medical education and constitute an interesting and timely presentation of the problems confronting medical education with an evaluation of potential solutions. The first paper is the eighth revision of the objectives of undergraduate education as they are conceived by the Association of American Medical Colleges today. It clearly portrays the major aims of undergraduate medical education and endeavors to indicate its limitations. Other papers present the problems of staffing medical colleges in four-year medical schools, problems revolving around the selection of medical students, a presentation of the financial status of medical education, an analysis of the distribution and characteristics of medical college graduates during the period from 1915 to 1940, and a final article presenting the challenges confronting medical education at this time. This volume deserves serious review by all medical educators, college presidents, and members of the profession concerned with the problems of medical education.

More Clinical Sonnets. By Merrill Moore. Cloth. $3. Pp. 72, with illustrations by Edward Gorey. Twayne Publishers, 34 East 23rd Street, New York 10, 1953.

Dr. Moore's latest collection of sonnets can be reviewed by repeating comments that have been made about the author's previous sonnets. The sonnets have been described on various occasions as "magnificent"; as expressing "humor and poignancy" and making for "diverting reading"; as "providing acute insight expressed with wit"; as being "pithy, caustic, comic, tender, penetrating, sad, grim, witty, serious"; and as inviting the reader to "start reading and stop if you can." It can only be added, "For the reader who may have an inhibition, a quick cure resides in this edition."

Introduction to Physiological and Pathological Chemistry. By L. Earle Arnow, Ph.G., Ph.D., M.D., Vice-President and Director of Research, Sharp & Dohme Division of Merck & Co., Inc., West Point, Pennsylvania. Revised with assistance of Marie C. D'Andrea, R.N., B.S., Educational Director, School of Nursing, St. Vincent's Hospital, Indianapolis. Fourth edition. Cloth. $3.75. Pp. 508, with 108 illustrations. C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, 1953.

So many textbooks of chemistry for nurses have appeared in the last decade that none would reach its fourth edition if it were not exceptionally good. Like the other three editions, this text is simply written, copiously illustrated, and pointed to the interests of student nurses. The major changes from previous editions are deletion of directions for laboratory experiments (to be published in a separate manual) and instructions on the removal of stains from clothing, and addition of separate chapters on nuclear reactions and atomic energy, on agents used in chemical warfare, and on the chemistry of blood. Throughout this book the material has been brought

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These book reviews have been prepared by competent authorities but do not represent the opinions of any official bodies unless specifically so stated.

up-to-date; for example, cortisone, corticotropin, and cyanocobalamin (vitamin B_{12}) are discussed. The printing is of good quality and the binding is sturdy, but the highly glazed paper, which may have been necessary for the illustrations, is hard on the eyes of readers. All instructors in this field will wish to examine this textbook.

Who Shall Survive? Foundations of Sociometry, Group Psychotherapy and Sociodrama. By J. L. Moreno, M.D. Cloth. $10. Pp. 763, with illustrations. Beacon House, Inc., P. O. Box 311, Beacon, N. Y., 1953.

This book is apparently not a first edition, although no mention of earlier editions is made on the title page. In it the author says someone once asked him, "Why is the first edition of 'Who Shall Survive?' so clumsily written?" to which he replied: "In order to make it clear for all posterity that the book could not have been written but by myself alone." In another place he says some one said to him: "You seem to think that 'Who Shall Survive?' is a book of books, a new bible." Moreno admits that it is a new bible, that it has more ideas packed in one book than a whole generation of books, and adds that actually he has written two bibles. The book is a formidable volume and contains a wealth of information on the subjects of sociometry, psychodrama, and group psychotherapy, intermingled with ideas on philosophy, religion, sociology, and countless other fields of thought. In addition, there is a vast amount of tabulated and statistical data as well as a lengthy bibliography. For those interested in such material and in the broad fields to which they apply or for those who are anxious to learn about some of the feelings and philosophical ideas of the author, the book will be of interest. It is written by the man who has generally been given credit for originating group therapy and psychodrama. So far as priority in the field of sociometry is concerned, Moreno offers as the frontispiece to the book a fragment of the "First Sociometric Plan" in the form of a fragment from the original draft of his letter written in 1916 urging the Austro-Hungarian monarchy to apply sociometry to the community of displaced persons in Mittendorf. Elsewhere in the book he says, "I tried to do through sociometry what 'religion without science' has failed to accomplish in the past and what 'science without religion' has failed to accomplish in Soviet Russia." The future will have to determine whether he has succeeded in achieving this ambitious aim.

Lehrbuch der topographischen Anatomie. Von Anton Hafferl, o. Professor der Anatomie und Vorstand des anatomischen Instituts der Universität Graz. Cloth. 60 marks. Pp. 921, with 664 illustrations. Springer-Verlag, Reichpietschufer 20, (1) Berlin W. 35 (West-Berlin); Neuenheimer Landstrasse 24, Heidelberg; Göttingen, 1953.

This fine book on topographical anatomy is the result of much planning and an extensive survey of the available texts and literature. Although numerous standard works deal with this subject, the author has used a fresh approach, and has succeeded in presenting the common anomalies as well as the so-called normal anatomy. The color plates add appreciably to the clarity with which the structural relationships are depicted. The use of red to denote suture lines is particularly helpful.

The following faults detract but little from the value of this work. The discussion of the relationship of the facial nerve to the parotid gland was especially weak. Greater emphasis should have been placed on the possibilities of the nerve passing between the superficial and deep parotid lobes. Figure 208 on page 250 depicts a most unusual looking thyroid gland. No isthmus is shown, and one lobe seems to merge directly into the other. In this same illustration a pyramidal lobe is shown arising from the upper aspect of the right thyroid lobe. Such an origin is rarely, if ever, noted. Although the embryologic development of the pancreas is admirably treated, there should have been more stress on the fact that the common duct travels through the head of the pancreas. Furthermore, this fact was not brought out in figure 356 on page 454. The cystic duct appears out of proportion in figure 366 on page 474. The sections on the extremities were very well done. The book is printed in large type, and an attempt has been made to shorten the sentences. The latter feature should prove a boon to those whose reading knowledge of German is not fluent. An extensive bibliography is appended.

Tests and Standards for New and Nonofficial Remedies: Containing Tests and Standards for Nonofficial Drugs and Dosage Forms Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1953. Issued by The Chemical Laboratory, American Medical Association. Cloth. $4. Pp. 327, with illustrations. J. B. Lippincott Company, 227-231 S. Sixth St., Philadelphia 5; Aldine House, 10-13 Bedford St., London, W.C.2; 2083 Guy St., Montreal, 1953.

This small volume is a companion to "New and Nonofficial Remedies" from which tests and standards were omitted for the first time this year. To make the volume independent of N.N.R., structural formulas have been included in the individual monographs and trade names of Council-accepted brands have been added. Aside from these changes the work is what used to be section B of the annual editions of N.N.R. Substances covered in this volume are nonofficial dosage forms of official products and drugs not in the "United States Pharmacopeia" or the "National Formulary." Many of the nonofficial drugs are too new to be in the official compendiums, which are published at five-year intervals. Thus, the volume is useful to pharmacists, pharmaceutical manufacturers, purchasing agents, and students of pharmaceutical chemistry. The printing and binding are good.

Multiple Myeloma. By I. Snapper, M.D., Director of Medical Education, Cook County Hospital, Chicago, Louis B. Turner, M.D., Research Assistant in Medicine, Mount Sinai Hospital, New York, and Howard L. Moscovitz, M.D., Resident, Second Medical Service, Mount Sinai Hospital, New York. Cloth. $6.50. Pp. 168, with 43 illustrations. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, 1953.

This excellent monograph is based, for the most part, on the authors' extensive study of 97 cases of multiple myeloma, 41 of which were studied post mortem. The discussion of various aspects of the disease encompasses the experience of the authors and relates it to previous findings in the literature, which is fairly completely reviewed. The text is well written and is liberally supplemented by illustrations that are generally very good. The lithography and format are also commendable. The bibliography and index enhance the book's value, even though the bibliography does not pretend to be complete. The main function of the book is to serve as a definitive treatise on the subject to date. Hematologists will certainly want the book for their libraries, and others will do well to browse through it, because multiple myeloma, by virtue of the multiplicity of its manifestations, may be encountered in almost any specialty. Perhaps the greatest value of the book is to call attention to the fact that multiple myeloma is not at all a rare disease, as evidenced by the ability of the authors to collect 97 cases in one institution in seven years.

United States Government Organization Manual 1953-54. Federal Register Division, National Archives and Records Service, General Services Administration. Revised as of July 1, 1953. Paper. $1. Pp. 734. Superintendent of Documents, Govern. Print. Off., Washington 25, 1953.

Because the activities of the federal government are so closely interwoven in the lives of all citizens, it is only natural that curiosity should arise concerning the structure of this government. The manual of the United States Government Organization is revised each year and is the sort of volume that provides ready reference for anyone interested in the make-up of the government, the activities of the departments, the personnel associated with these departments, and other such information. It should be of interest to almost all citizens but often offers particular interest to special groups, for example, members of the legal profession, physicians, and business men. This volume is well worth the dollar it costs, even if it serves no other purpose than to provide an answer to questions that arise concerning discussions of politics. The entire family will refer to this at some time during the year.

QUERIES AND MINOR NOTES

STERILIZATION BY DRY HEAT

To the Editor:—*At what temperature should the thermostat of a hot air sterilizer be set and how long should it continue for the sterilization of needles, syringes, small instruments, and rubber gloves?*

H. H. Hancock, M.D., Union, West Va.

Answer.—Clean needles, surgical instruments, and syringes can be sterilized by exposure to dry heat at 160 C (320 F) if the sterilization interval is sufficiently long. Usually, exposure for one hour, after the temperature has been attained, is sufficient. If the sterilizer is overloaded or if the heat must penetrate outer covers such as glass tubes or metal trays, the time should be extended. It is recommended that the temperature of the oven be raised gradually to 160 C to permit adequate heat penetration and to prevent excessive strains on glassware. Rubber goods will not withstand exposure to dry heat at the temperature and interval required for sterilization.

THALAMIC SYNDROME

To the Editor:—*A white woman, aged 44, was suddenly stricken four years ago with severe headache with lateral deviation of the right eye. Lumbar puncture revealed blood in the spinal fluid. Cerebral angiography revealed an aneurysm of the right internal carotid artery in the anterior portion of the circle of Willis. Ligation of the carotid vessel on this side was followed within 24 hours by complete left-sided hemiplegia and unconsciousness. Anticoagulant therapy brought excellent improvement. The patient is ambulatory and doing well, except for slight weakness of left arm and left leg with insignificant sensory changes on the left side. One year ago, she began to complain bitterly of a "waxy" sensation in the mouth. Qualified staff members at a recognized dental school had no explanation but suggested that this was a psychosomatic manifestation. This waxy sensation has been unrelenting. She has no interference with taste sensation, but states that periodically there is a hot feeling in her mouth. She complains of a tingling sensation, which is constant over the lower maxilliary and mandibular divisions of the trigeminal nerve bilaterally. It cannot be relieved by mouth washes or any type of food. Can you suggest any therapeutic approach?*

M.D., Alabama.

Answer.—The persistent symptoms and "insignificant sensory changes on the left side" point to a limited lesion within the ventral posteromedial nucleus of the thalamus on the right. Crossed and uncrossed secondary trigeminal pathways have been traced to this nucleus. This would account for the bilateral symptoms. The lesion is in all probability a gliotic area that arose as the result of anoxemia occurring at the time of rupture of the aneurysm or during the critical period after carotid artery ligation. The lesion of necessity is small, since such a limited portion of the body is involved. No specific treatment can be recommended for this condition, which is known as the "thalamic syndrome." Stellate ganglion blocks with procaine could be tried on the chance that the symptoms that were delayed in onset are caused by a vasospastic phenomenon associated with irritation at the junction of normal neural tissue and the area of glial scarring. If the symptoms increase to the point of becoming unbearable for the patient and drug addiction threatens, major neurosurgical intervention must be contemplated. In this event prefrontal lobotomy could be considered or one of the stereotoxic procedures recently devised by Wycis for interruption of ascending pain pathways in the mesencephalon.

SMALLPOX VACCINATION

To the Editor:—*Is it true that giving smallpox inoculations without the prior preparation of the skin with an antiseptic agent is a serious break in sound medical principles? It is felt that the intradermal prickings of an inoculation could be compared to shaving, the pressure of a belt or other clothing, the simple rubbing of the skin unconsciously, or the "sandpapering" of acne scars, where there is no thought of artificially induced infection.*

M.D., Virginia.

Answer.—When the skin is cleansed with acetone or ether in preparation for a smallpox vaccination, the area should be dry before the vaccine is applied. To facilitate speed in vaccinating large groups, nurses or medical assistants usually do the preliminary work. With such an arrangement, the physician is concerned only with the actual vaccination and there is no loss of time. If there are failures to secure successful vaccinations in susceptible persons, the potency of the vaccine should be investigated. Vaccine that has not been stored at a low temperature may have become useless. It would be a serious error to ignore the customary technique for cleansing the skin before the vaccine is applied. There is always the possibility of an infection with staphylococci and streptococci present on the surface of the skin. The inoculation of smallpox vaccine cannot be compared to shaving. Many infections have resulted from the other examples mentioned when an unclean skin was abraded, and the cut of a razor—especially on the upper lip—has led to infections that resulted in death.

ASTHMA AND SILICOSIS

To the Editor:—*Would asthma that occurs for the first time in a 52-year-old granite worker be caused or aggravated by silicosis, second stage? Roentgenograms of the chest four years ago showed no abnormalities and three years ago showed scattered mottled shadows.*

Pierre J. Guilfoile, M.D., Delano, Minn.

Answer.—Asthma occurring for the first time in a 52-year-old person can be aggravated by silicosis. The type of dyspnea caused primarily by silicosis is due to damage of the lung parenchyma and to emphysema. In some persons with silicosis, bronchospasm is induced secondarily. It should also be remembered that a 52-year-old man may have allergic infections or cardiac asthma for the first time. If the patient in question has true asthmatic episodes (relieved by epinephrine or aminophylline), a search for other causative factors should be made by a series of observations such as examination of the sputum for eosinophils and neutrophils, skin tests, and examination for hypertensive, coronary, or syphilitic heart disease.

WORK WITH VIBRATING TOOLS

To the Editor:—*May I have some information on the occupational hazard attendant to the use of a jackhammer over a period of years. I am specifically interested in knowing whether or not any type of nerve damage normally follows the continued use of one of these air compressor hammers.*

M.D., Illinois.

Answer.—A variety of physiological disturbances are attributable to the action of vibrating pneumatic and electric tools. Part of the differences in manifestations are attributable to the speed and amplitude of the vibration. Another difference is related to low temperatures attending some pneumatic tool work. As a rule, the severer conditions result from use of high frequency, low amplitude tools. The major disturbances chiefly involve the fingers and are, or are similar to, Raynaud's phenomenon. For some major tools, of which the jackhammer is one, the most frequent damage involves the soft tissues, appearing as synovitis or tendonitis. In addition, arthritis at any point along the upper extremity may result. Also areas

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The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically so stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

of bone decalcification may arise in the wrist area. Long nerve neuritis is not a common feature but repeatedly has been described, the ulnar nerve being mentioned oftenest. Apart from the tool itself, other factors contribute, such as the posture while at work. Some mining or quarrying operations may require a prone position, leading to much pressure on the outstretched arms. The hardness of the material being drilled is significant.

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ANGINA-LIKE PAINS

TO THE EDITOR:—*A married woman, aged 26, has had angina-like pains for two years. She had one abortion at four and one-half months of pregnancy, followed by infection of the uterus and adnexa, three years ago. The cause of the abortion is unknown. She is Rh negative. She has one living child, aged 5. Two years ago, the patient had peptic-ulcer-like pains, which were partially relieved by the use of methantheline (Banthine) and Prantal (N,N dimethyl-4-piperidylidene-1,1-diphenyl-methane methyl sulfate). Results of upper gastrointestinal tract studies did not indicate an ulcer; one film showed a J-shaped stomach. For the past six months the pains have been precordial; they are severe, sharp pains that radiate to the upper left arm, stopping at the elbow. The chest pain is not affected by deep breathing or exercise but comes on at rest, while the patient is listening to music or even while she is asleep, thus waking her. Swimming and the lifting of heavy objects do not initiate the pain, and it is not related to eating or hunger. The ulcer type of pain no longer seems to be present. The patient's present distress is not relieved by the use of atropine (1/100 grain [0.6 mg.] given intramuscularly), acetylsalicylic acid, phenobarbital, Donnatal (an elixir containing hyoscyamine sulfate, atropine sulfate, hyoscine hydrobromide, and phenobarbital), antispasmodics, or antacids. The pain is severe for several minutes and then dies down, leaving a dull ache that persists for several hours. On several but not all occasions, it was relieved dramatically by the use of glyceryl trinitrate under the tongue. It commonly occurs while the patient is lying on her back. There is no pyrosis. The patient has psychiatric determinants (a broken home in her childhood), and she continues to have weird dreams. The electrocardiogram is normal. Results of roentgenographic and fluoroscopic examination of the chest are normal. The patient claims she is happily married, and she would like to become pregnant again. At an early age she was kept home from school and in bed for several months. Her athletic activity in school was restricted for a year, and she was told she had "weak lungs." She is highly intelligent and perfectionistic and is usually successful in all endeavors. The local internist is unable to find an organic lesion that could cause this pain. Have you any suggestions?*

M.D., California.

ANSWER.—Despite the seemingly obvious psychic implications of the occurrence of the symptoms on recumbency, the patient's condition probably does not have a psychic basis, nor is it likely that the chest symptoms are cardiac in origin. Although decidedly unusual, it is entirely possible that the pain is due to cholelithiasis. A Graham test should be performed. The possibility of a hiatus hernia cannot be excluded on the basis of a single examination; other types of hernia, such as those involving Morgagni's or Bochdalek's foramen, must also be considered. If none of these tests shows abnormalities, use of a therapeutic regimen that has been beneficial to patients with hiatus hernia should be attempted. This would include the eating of only small meals, avoidance of ingestion of liquids and of assuming the recumbent position for at least two hours after any meal, sleeping in as upright a position as feasible, with the use of two or more pillows or even a hospital bed, and a regime of a liberal bland diet.

HISTOLOGICAL SECTIONS

TO THE EDITOR:—*In* THE JOURNAL *of Sept. 19, 1953, page 257, the physician from the Dominican Republic asked about the time required to get a report on a biopsy specimen. Your answer stresses the making of a section and states that after the section is made the interpretation can be made the same day. The autotechnicon is an expensive complicated machine that moves the tissues through the solutions and, therefore, can process tissues during the night. If one wishes, the tissues can be moved through the same solutions by hand. When the volume of work is sufficient, this machine is of some help in getting sections. However, it is possible to process a piece of tissue and get a section in one day without an autotechnicon. The interpretation of the section and preparation and mailing of the report may take much more time. It seems to me that the physician from the Dominican Republic has no just complaint when he says that it takes as long as seven days to get a report. This can only mean that other reports require less time.*

We have three autotechnicons, and I direct one laboratory where we have no autotechnicon. In this laboratory we put formaldehyde-fixed specimens into acetone over night. The next morning they are put into a second acetone solution and then into chloroform and paraffin (two changes). Sections are made late on this day and thus are obtained 18 hours after the tissue is placed in acetone. Small pieces can be run, cut, and stained in 10 hours or even less. To this time for interpretation and report must be added. There is much more to it than getting sections.

Robert B. Wright, M.D.
University of Maryland
Baltimore.

TO THE EDITOR:—*Possibly the physician from Dominican Republic* (THE JOURNAL, *Sept. 19, 1953, page 257) will find the following method for securing histological sections advantageous. For 24 hour tissue processing a pathologist need buy no equipment more expensive than a half a dozen wide-mouthed stoppered 200 cc. bottles. He can improvise a 55 C paraffin oven with an electric lamp as a heating element; the microtome and microscope are the only expensive necessities.*

Tissues as received in 10% formaldehyde may be left until noon, and can be put into the paraffin by 5 p. m., to be ready for sectioning and staining the following morning. The tissues for examination should be cut less than 4 mm. thick and strung on colored threads or with beads for identification, so they will hang in the upper part of the solutions, supported by the stopper. Tissues obtained by curetting may be similarly strung if placed in gauze bags.

First, the specimens should be placed in alcoholic Bouin's solution, and the bottle placed in the paraffin oven for a half hour. After transfer to isopropyl alcohol (absolute), the specimen should be left for an hour in the oven and in a second alcohol solution for another hour. Then the specimen should be left in toluene in the oven for an hour (until the tissues are translucent), in a second toluene solution for a half hour, then in the paraffin overnight.

The isopropyl alcohol bottles are conveniently used with a layer of $CaSO_4$ *granules in the bottom, with an indicator. The time required to change from one solution to another as warned by a timer clock is under 1 minute (5 minutes in all). Where time and skill and training are requisite is in the orientation of tissues in the paraffin blocks, the sectioning, and the mounting on slides. Slides taken from the warm water on which they are floated and flattened can be dried of water, and the paraffin melted for rapid removal by toluene preliminary to staining, by placing the slides on a frame set over an electric lamp for a few minutes.*

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PERSPECTIVE VERSUS CAPRICE IN EVALUATING TOXICITY OF CHEMICALS IN MAN

CHAIRMAN'S ADDRESS

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Life in these United States in the mid-twentieth century is so dependent on the products of chemical technology that no field of human thought or endeavor can ignore its dominating influence. Given reasonable time, the chemist appears to be able to construct a product to meet almost any set of specifications, the limiting factor being the imagination of the designer. Developments in this field have moved forward so rapidly in the last two decades that even the pharmacologist can scarcely keep abreast of the influx of new drugs, while the toxicologist is swamped with the multitude of agricultural, industrial, and household chemicals that are flooding the market.

Many of these compounds are highly toxic by any standard. Others are potentially capable of effecting long-range biological actions about which little is presently known. The public, ignorant of these effects, deserves and expects protection against unlimited exploitation of these new substances. The question is how much protection a government can be expected to guarantee to the nation and how it shall be accomplished. It would appear to be in proper perspective to say that the least the public should expect is that the algebraic sum of beneficial and detrimental effects of any chemical substance represent a significant positive balance in favor of benefits to the person and/or the state. By the same token, it seems out of perspective to attempt to protect the public against every conceivable contingency that may occur. The quantity of technical information concerning the biological actions of old and new chemicals, even in that circumscribed area of principal interest to the physician, the effects of chemicals on man, is now so great as to pose a most difficult problem in medical education, since it is to be expected that the medical student, the general practitioner, and even the medical specialist can assimilate only a very small fraction of this mass of material.

American physicians are indeed fortunate in being able to inform their patients that drugs purchased on prescription or for self-medication are almost certain to be of proper identity, purity, quality, and quantity. This situation is virtually guaranteed by the wise provisions of the Food, Drug, and Cosmetic Act of 1938, especially the new drug section, which requires approval in advance of distribution. In the main, fair perspective has been maintained in administering the act as it relates to drugs, and the medical profession has retained the initiative in this area, probably because it is better informed about the tools it uses daily. Drugs, however, represent only a relatively small fraction of the total problem of toxicity of chemicals for man. It is also the easiest fraction with which to deal, since a greater risk is permitted and toxicity is usually easier to determine. In the fields of food additives, pesticide residues, industrial exposure, and many other situations involving borderline decisions between toxicity and nontoxicity, the problems are exceedingly difficult. In these areas, the medical profession has lost the initiative, even in many situations in which its members are the only persons with competence to make decisions critical to the public welfare.

This is not surprising and may not even be seriously detrimental to the public welfare, since decisions based on this technical information affect every facet of human activity so profoundly that they represent legitimate concern of sociologists, economists, legalists, moralists, politicians, and internationalists, as well as physicians and biologists. It is almost axiomatic that areas of activity such as these, in which opinion must often substitute for lack of factual data, may also become the province of the crackpot, the self-styled scientist, and the well-meaning but misinformed reformer. Any of these persons may exert a powerful influence on the general public by posing as a champion of the individual safety and protector of the public welfare.

It would be surprising indeed if proper perspective were to be retained by all participants in a situation involving such a large number of points of view and so many selfish interests. Who should logically bear the responsibility for maintaining proper perspective in a situation that involves such a maze of conflicting forces?

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Obviously the principal responsibility for retaining perspective is in the hands of those who are authorized to administer the law and the regulations enacted under the law.

My purpose is to call attention to certain situations involving nondrug chemicals, food additives, pesticides, and other commonly used products. These facts should be of interest, since their implications represent a cause for professional as well as civic concern. As a pharmacologist, whose business it is to keep informed on matters related to toxicity, I am in a position to recognize and to view with alarm the gradually growing body of practical propagandistic pseudoscience that is being permitted to increase by those who are legally and morally responsible for retaining perspective, in order to fulfill what they believe, undoubtedly in all honesty, to be their obligation to the American public.

EXISTING LEGISLATION AND PHILOSOPHY

For approximately 50 years, the food division of the Food and Drug Administration has adhered to a basic administrative policy that no chemical shall be added to foods. This philosophy was first established, even prior to the enactment of the 1907 Food and Drug Act, by H. W. Wiley, who was then chief of the bureau of chemistry, U. S. Department of Agriculture, the predecessor of the present Food and Drug Administration. There have, of course, been many decisions that are contrary to this policy, since it is difficult to consistently find scientific support for a negative position. It is not my intention to discuss the merits of this policy but to declare what I believe to be the results in loss of perspective from adherence to an administrative policy that is not based on sound scientific principle. Lest there be any doubt that such a policy is still in existence, I quote from testimony offered by Dr. Dunbar, the recently retired commissioner of the Food and Drug Administration, before the House select committee to investigate the use of chemicals in food products, the Delaney committee: "I feel that no chemical or no new chemical that is subject to any question as to safety should be employed until its possible injurious effect, both on acute and over a long-time chronic basis, has been shown to be nonexistent. In other words, any chemical that is proposed for use ought to be approved in advance of distribution in the food product to be utterly and completely without the possibility of human injury." Strict adherence to this statement would be to deny man the use of every chemical substance in view of the unquestioned fact that no method ever has been, or ever can be, devised that will permit an exact advance prediction of human hazard. In simple terms, no competent pharmacologist, toxicologist, or clinician will guarantee that there is no risk present in making available a new chemical for widespread distribution.

Although I believe that any philosophy based essentially on prohibition is impossible of scientific defense, my concern does not stem primarily from this fact. I am much concerned, however, as a scientist, about the methods used in the name of science to support an indefensible policy. These methods are essentially based on a studied attempt to confuse and mislead the public. My remarks are not intended to be an exercise in semantics, but I wish to make my point by relating what has happened to the terms, toxicity and poisonous. These terms have become so misused and so abused by pseudoscientists, politicians, and others that they now connote almost any type of action, or reaction, whether biological, sociologic, or economic, that is reported to be inimical to the public interest. The shifting of these terms from a scientific to a lay connotation places the pharmacologist and the toxicologist, as well as the clinician, in a dilemma. They are asked and expected to do the impossible. The principal task of the pharmacologist and the toxicologist is to supply sufficient basic information concerning the biological action and potential toxicity of a chemical substance on animals to warrant its preliminary clinical study in man as a calculated risk. What is the purpose of these studies if their application to man is denied? The a priori determination of calculated risk is an exceedingly complicated problem. In many instances it must involve the considered judgment of a large number of fully competent specialists in a variety of fields, including nonbiological areas. This is especially true when prolonged and extensive exposure of a whole population is involved.

As a result of the fact that so many persons may ultimately become involved and that so many decisions may be necessary to determine the calculated risk with accuracy, the easiest position for those in fields of great responsibility to assume is one that amounts virtually to complete prohibition based solely on absolute toxicity. This can be easily accomplished by the establishment of standards that are impossible to attain regardless of conditions of use, capricious and discriminatory decisions, and the like. Such a view is easy to assume since it is most amenable to regulation, requires the least energy to defend and to administer, and requires no effort whatsoever to muster the support of the extremists, the misinformed, and the opportunists, to mention but a few. Strangely enough, the public appears to demand a share in deciding what shall be a calculated risk, although this seems contrary to the statements of representatives of this philosophy. A few examples will suffice. The per capita use of cigarettes increases each year in spite of the warnings about such deleterious effects as cancer. The per capita consumption of alcohol has never diminished appreciably, although its misuse represents one of the most important sociologic and medical problems. Did the rebellion against the Volstead Act represent a perversity of an ignorant population or did it indicate that, even though a majority of the consumers of alcohol knew its potential toxicity and its personal as well as a social hazard, they were still willing to calculate these risks to be warranted when balanced against personal and social benefits?

There is a tendency to believe, or to lead the public to believe, that the new chemical agents are fundamentally different from those old chemicals with which we have long been in contact. The inference is made that some new principles are needed for handling the problems of toxicity that arise in this advanced chemical age. These new chemicals, however, do not differ in any respect, except possibly in potency, from those with which we are more familiar. Nearly every known chemical substance can produce a toxic action on man if the exposure is adequate. In fact, selective toxicity is the basic principle that governs the activity of the large segment of the chemical industry that deals with the actions of chemicals on biological systems. This principle is basic in the search for a cure for cancer, tuberculosis, or any other disease, as well as in the search for a new insecticide, soil fumigant, or food preservative.

It cannot be denied that sensible laws and regulations are necessary to protect the public against itself and against those unscrupulous persons who would prey on the ignorance or cupidity of individual members of the population. It would appear to be neither dignified nor necessary to use shabby tactics to effect this protection. Yet short-sighted policy, incompetence, bureaucracy, and politics have resulted in such an admixture of fiction with science that it is no longer possible to distinguish truth from propaganda, and vice versa. Numerous technical devices that prohibit rather than aid the determination of the factual state as it relates to toxicity have become established over a period of time; for example, the use of the terms adulteration and standards of identity as virtual synonyms for toxicity has become common administrative practice. Other examples include the use of arbitrary margins of safety without much regard for the conditions of use, transference of toxicity data from its application in one use to an instance in which the data apply to another use, without consideration of the hazard or calculated risk in the latter usage, the denial of established facts based on experience with large groups of human beings if these facts deviate from findings in other animal species, and the use of incompetent witnesses or pseudoscientists to bolster up administrative decisions and influence legislation.

One of the best recent examples of this type of action relates to the decision that bans softeners in bread. These cannot be considered to represent a biological hazard under present conditions of use. That softeners may not offer sufficient material benefit to society to warrant their use is not the point. The real point is how the problem was solved administratively in order to muster support for the decision to discontinue the use of softeners. This was done by declaring the manufacturers guilty of "deceptive" practices in the name of toxicity because these substances had not been shown to have been nontoxic throughout the whole lifetime of man. If this is perspective, then the scientist had better go out of business.

OUTLOOK FOR FUTURE LEGISLATION

Prolonged adherence to a philosophy of action that places the burden of proof on the administrator, as is the case with foods under the present law, is no easy task especially when capricious decisions are under constant attack. As is inevitably the case when technical progress exceeds human capacity to deal adequately with a problem, solution is sought in further legislation. Theoretically, this should represent a gain to the state since, in principle, laws are enacted to enable society to retain or regain perspective rather than the converse.

Be that as it may, new legislation is now being considered that will set up a so-called new chemical section of the federal act that will deal with foods and food products, and will be analogous to that now in use for new drugs. The principal provision of this proposed legislation would be to require proof of the nontoxicity of chemicals in advance of their use. I do not intend to discuss the merits of this new legislation, except to say that I believe that it could be as beneficial as the present new drug section providing it was formulated, enacted, and administered with perspective based on scientific fact. I believe that physicians, who obviously have a vital concern with this problem, should be apprised of the total situation as it now exists, since such new legislation if administered by the existing philosophy would assure a permanently distorted approach to the problem.

In order to effect such legislation, an "impartial" committee of the House of Representatives to investigate the use of chemicals in food products was impaneled to hold hearings on the problem. In the midst of these hearings, the chairman, James P. Delaney of New York, published an article in the July, 1951, issue of the *American Magazine*. This lurid article, a masterpiece of innuendo and fantasy, based principally on conjecture, was designed for the one purpose of frightening the housewife into demanding further legislation. Mr. Delaney stated: "The Food and Drug Administration has listed 704 chemicals which are being used in our regular food supply, of which only 428 are known to be safe. In other words, 276 chemicals are unknown and untested quantities, and some of them may be slowly poisoning us!

"This potentially lethal situation is due to a curious loophole in our present laws, a tragic legal joker that permits us to become a nation of 150,000,000 guinea pigs guilelessly testing out chemicals that should have been tested adequately before they reached our kitchen shelves.

"Doctors testifying before the House committee have stated that there may be some connection between these new chemicals and the increase of such diseases as cancer, polio, and the mysterious virus X."

It is interesting to note that laymen also testified before the committee, on medical subjects. "Louis Bromfield, novelist and gentleman farmer, testified that virus X, the mysterious, influenza-like epidemic disease, may be nothing more than manifestations of DDT poisoning; and the increased incidence of heart disease, cancer, and leukemia may result from cumulative poisoning by pesticide residues."[1] Evidently, medical evidence from a layman was just as convincing to the House committee as that from the doctors.

Examination of the testimony that was collected with the active backing and support of the regulatory agency involved and was offered before the Delaney committee reveals it to be largely of the caliber just mentioned. For example, nitrogen trichloride (Agene) has been used in the United States for over 25 years to age and bleach flour. A few years ago, it was discovered that this compound produces convulsions in dogs. Although the American people, for 25 years, have been using bread made of flour bleached with this agent, there is no evidence that it has had any deleterious effect on them; yet several self-styled experts, writing in the press and testifying in the Delaney hearing, conjectured or inferred that epilepsy, alcoholism, and a variety of compulsive, convulsive, and excitatory disorders may have resulted from the use of this material for the last 25 years. Millers and bakers "voluntarily" agreed to abandon its use. I would not object to this action even if legal compulsion had actually been required to enforce it. In this particular instance, the justification for use is so negligible that the calculated risk must be equally negligible. I oppose vigorously, however, the capricious use of these data even to infer toxicity for man. This is more reprehensible since it was designed primarily, if not exclusively, to influence legislation.

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[1] Coming: Tougher Food Law, Chemical Week, vol. 69, No. 2 (July 14) 1951, pp. 11-12.

If a negative experiment on man involving a 25 year trial in a whole population (possibly 2.5 billion man-years) is ignored as proof of nontoxicity, what conceivable type of evidence could a pharmacologist or a clinician present in advance of distribution in a food product to be utterly and completely without the possibility of human injury?

In defense of the competent and experienced scientists associated with these regulatory agencies, let me say that they are often forced by their position to render decisions in the face of innumerable pressures, even though they often lack the definitive information necessary to an adequate decision. This is likely to become worse rather than better. For this reason, some measures should be taken that would permit them to share responsibilities in areas in which they lack competence. Let me cite a few examples of current or future headaches. Chemicals for systemic use that are effective in population control are now available. Can a few administrators with small technical staffs deal adequately with this problem? The problem of carcinogenicity of chemicals stands as an ever present shadow over those responsible for making decisions. There is no possibility of devising experiments on animals that will conclusively guarantee in advance freedom from such an action in man. Are we to deny ourselves the trial use in man of all chemicals because of a possible carcinogenic effect? Chemicals that will alter genetic characteristics in plants, modify their growth, and produce numerous modifications of their biological characteristics have long been known. It is only a matter of further study to find such chemicals that will produce similar effects in man. Probably they will be discovered by accident. In all likelihood, they will not be ascertained in advance. The imagination of the reader may furnish even tougher assignments for the future. Undoubtedly, if most of us were confronted with such problems we would fumble and possibly lose perspective. I hope, however, not to such a degree as to advocate 10 year administration of chemicals to the monkey before admissibility for use in man as was advocated by a well-meaning witness in testimony before the Delaney committee. As one who knows from 25 years' experience how difficult it is to maintain monkey colonies for even a few years, I doubt that the witness has much competence in this area.

CONSIDERATION OF BASIC PRINCIPLES

Is there a better solution to the problem of properly evaluating toxicity of chemicals for man without resorting to the unscientific methods already alluded to? Without offering a categorical answer to this question, it appears timely at least to reconsider what I believe to be certain irrefutable principles upon which evaluation of human toxicity must be based. 1. Every chemical substance has a nontoxic and a toxic dose for man; that is, no chemicals must be poisons, and all chemicals can be poisons. 2. The use of every chemical substance by man, whether it be as a food, drug, cosmetic, insecticide, or for any purpose, is a potential hazard. There are only few exceptions. The risk may be very small or very great, depending on the nature of the chemical, the conditions of use, the degree and duration of exposure, and the condition of the person. 3. The toxicity of chemicals for man can be ultimately determined only by experiments on man. Studies on many species of infrahuman forms can give reasonable assurance that the chemical may be tried in man with a minimal risk, but no set of conditions involving animals alone can prove nontoxicity or toxicity for man. The determination of certain types of potential toxic effects such as genetic changes or carcinogenicity may require several generations or a lifetime of large human populations. It cannot be determined conclusively on any other animal species. On the basis of numerous examples of specific toxic action limited to a single animal species, it is safe to conclude that some day a chemical will appear that is specifically toxic for man alone. 4. The use of every chemical substance in man involves a calculated risk. The degree of risk is calculated by balancing the toxicity of the chemical under conditions of use (its hazards) against its benefits to man, whether these benefits are direct or indirect. Minimal risk is encountered when the dose or extent of exposure is calculated to be tolerated by the weakest member of the population. This would take into account every person who may be specifically sensitive to the chemical. For chemicals designed for internal use or capable of being absorbed into the body, it is impossible to predict with certainty in advance a quantity of the material, or establish a regimen of exposure, or to calculate a margin of safety, which will at the same time assure complete biological effectiveness and absolute nontoxicity in any human population. In other words, the maximal tolerated dose for the weakest member of a population may be ineffective in the most resistant, whereas an effective dose for the latter may be toxic to the former. The common practice of arbitrarily assuming a so-called margin of safety for man, calculated on the basis of data on animals, usually a quantity or concentration tenfold to one-hundred-fold greater than that shown to produce minimal injury in animals, is at best no more than a means of permitting preliminary experiments in man. At its worst, when used as a substitute for human experience, it arbitrarily eliminates from consideration substances that may be of great practical value. In any event, scientific considerations would demand that such calculations be discarded entirely in the face of human data. 5. The greater the benefit of a chemical substance to man, the greater the justification for the increase in risk in its use. For example, an invariably fatal disease justifies the use of severely toxic compounds. As much as 10% expansion of a national food supply by the use of a food preservative or a pesticide would appear to justify a greater degree of risk than that ordinarily permitted in foods in view of the world responsibilities this nation is being called on to assume. In countries where critical food shortages exist, the individual risk could be very materially increased when it is balanced against national malnutrition and death from starvation.

On the basis of these considerations, we are now, and we will always be, confronted with two distinct and difficult problems, even after the pharmacologist has completed his studies on animals. First, the actual determination of toxicity in man. This requires now, as it will always require, pilot scale use of chemicals in man under controlled conditions in order to ascertain whether full scale use on the whole population may be justified. Such a procedure is inevitably associated with a certain calculated risk. Neither legislation nor regulation will alter this fact. The only obvious solution to this problem appears to be "limited use" acceptance until sufficient data in man are collected to arrive at a conclusion. This type of approval obviously could be justified only in the light of careful evaluation of justification for use. The only alternative, from a scientific and medical point of view, is for the public, satisfied with the *status quo*, to declare a moratorium on further technological advance in the chemical field and individually and collectively to refuse to play the role of Mr. Delaney's "guileless guinea pigs."

The second problem is the determination of justification for use in the light of all the biological and social forces existent in the population. In the latter area, no satisfactory agency or mechanism exists with the composite know-how and vision to deal satisfactorily with this problem, nor does it seem desirable to create such a permanent agency, because each new problem requires a different background in skills and experience for an equitable decision. The real defect in our thinking at the national level has been that, whereas we have created the mechanism for accurately determining toxicity in animals and we know how to determine toxicity in man with a minimal risk, the most difficult facet of this problem, the determination of justification for use, has not been kept in proper focus. It does not seem likely that perspective can be easily gained when any person may assume competence and get a respected hearing without regard to his training, experience, or judgment in these difficult areas, in our lawmaking tribunals.

It would appear that a satisfactory solution to both problems might be gained by the use of *ad hoc* committees implemented by qualified persons of wide experience and judgment in the principal areas under consideration. Such a technique, while not relieving the regulatory agencies of responsibilities assigned under the law, would have the obvious advantage of at least assuring the public of valid technical as well as moral justification for decisions that might otherwise be made without perspective. Such a commendable plan, operating within the framework of the National Research Council, was utilized most effectively in bringing perspective to a difficult problem dealing with toxicity of one of the antibiotics. Expansion of this technique into other branches of knowledge as they relate to this whole problem of toxicity would appear to be a most worth-while experiment. Finally, the public should be informed as to the facts. In the final analysis, it is the citizen who would like to assess the calculated risk for himself.

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CHOLECYSTOGRAPHY IN INFANTS

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Roentgen visualization of the gallbladders of infants has been consistently unsatisfactory and has been of little value in diagnosis of lesions of the biliary tract. Satisfactory cholecystograms have been commonly obtained in patients older than three years when the adult dose of either tetraiodophenolphthalein or iodoalphionic acid (Priodax) has been used.[1] As a rule, films have been taken about 14 hours after the oral administration of contrast material.

In 1945 Hrdlicka, Watkins, and Robb [2] reported that they had obtained satisfactory gallbladder shadows in two infants 9 and 10 months of age and in three of four infants 12 to 18 months of age. Iodoalphionic acid was used in doses two or three times the usual adult requirement per kilogram of body weight. In infants from one to seven months, no satisfactory gallbladder shadows appeared. Films were made 12 to 18 hours after the oral administration of the contrast agent diluted with orange juice.

In 1951, Catel [3] stated that visualization of the infantile gallbladder is maximal at 6 to 8 hours after the intravenous injection of 0.05 gm. per kilogram of body weight of tetraiodophenolphthalein. His patients were maintained on a diet of tea, boiled rice, and saccharin for the day preceding the test. The age of the youngest patient in whom a satisfactory gallbladder shadow developed is not stated by Catel.

The appearance of the gallbladder shadow after the oral administration of radiopaque material depends on adequate absorption, active secretion of material by the hepatic cells into the bile ducts, and concentration within the gallbladder. With these facts to guide us, we are reporting work in progress in the study of gallbladder function in infants.

GROUP AND TECHNIQUE

We have studied 20 infants and children younger than three years after oral ingestion of iodoalphionic acid or iodopanoic acid (Telepaque) under slightly varying con-

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[1] Caffey, J.: Pediatric X-Ray Diagnosis: A Textbook for Students and Practitioners of Pediatrics, Surgery and Radiology, ed. 2, Chicago, Year Book Publishers, Inc. 1950, p. 390.

[2] Hrdlicka, V. E.; Watkins, C. G., and Robb, J. A.: Cholecystography for Children, Am. J. Dis. Child. **70**: 325 (Nov.) 1945.

[3] Catel, W.: Differentialdiagnostische Symptomatologie von Krankheiten des Kindesalters, ed. 2, Stuttgart, Georg Thieme, 1951.

ditions and 3 infants after administration of sodium acetrizoate (Urokon) intravenously. Since we did not know the exact time of maximal concentration of these agents in young patients, hourly films were made after the administration of contrast material, usually from the 3rd to the 10th hour, with occasional later films. All but three patients received 0.15 gm. of drug per kilogram of body weight. This dose was chosen because it had not produced toxic symptoms in Hrdlicka's patients.

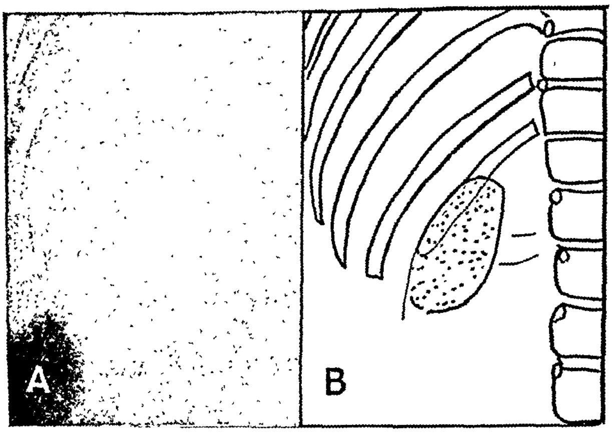

Fig. 1 (case 2).—*A*, cholecystogram showing gallbladder from frontal projection 6½ hr. after third 12 hr. dose of iodopanoic acid (Telepaque); *B*, schematic representation of the same.

The following technique was used. Nothing was given orally after midnight. At 6 a. m. either powdered iodoalphionic acid or iodopanoic acid was mixed with two or three teaspoonfuls of orange juice and then swallowed by the infant. No food or fluid was given during the next eight hours when films were made hourly, first in frontal projection only and later also in left anterior oblique position. Then, if the study was to be continued, more orange juice or Karo water was given. When films were taken as late as 24 hours, infants under six months were fed only Karo water and skimmed milk, while older patients were fed a fat-poor food. No untoward effects were noted and neither vomiting nor diarrhea occurred during the few days after the examinations.

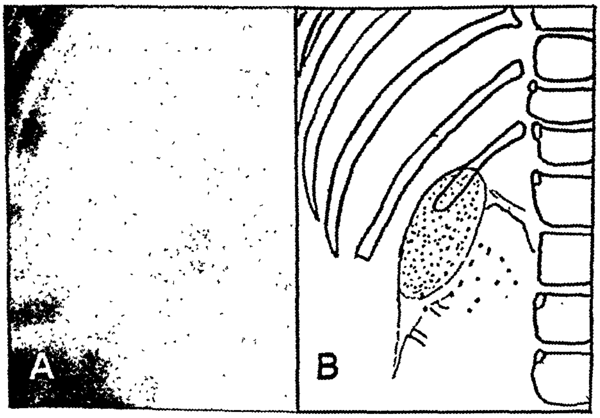

Fig. 2 (case 2).—*A*, the same as fig. 1*A* 7½ hr. after third 12 hr. dose of iodopanoic acid (Telepaque), *B*, schematic representation of the same.

At first iodoalphionic acid was used alone. In the first four patients, however, there were two failures of visualization of the gallbladder, and, in the other two, the gallbladder shadows were too faint for satisfactory interpretation. The large amounts of opaque material visible in the intestinal tract suggested that poor absorption of the contrast agent was a major cause of the failure of visualization of the gallbladder. Since iodoalphionic acid is soluble in an alkaline medium only, it is presumed that in these children the hydrogen ion concentration of the small intestine was not sufficiently low to give adequate absorption. This was supported in part by our finding that, of 24 infants under three months of age who had normal trypsin levels of duodenal juice, only 13 had a duodenal pH as high as 7. In the other 11, the duodenal pH ranged from 5.0 to 6.5. For our subsequent experiments in gallbladder visualization, therefore, sodium bicarbonate was added to the combination of orange juice and iodoalphionic acid in dosage of 0.5 or 1.0 gm.

Among eight infants so examined, satisfactory visualization of the gallbladder was obtained in five ranging in age from 3 to 17 months. In one of these five, a distinct shadow was present only in the 9 hour film. In the remaining three, no gallbladder shadow appeared in one 44-day-old infant or in a 3-month-old infant, and a faint shadow was seen in a 42-day-old infant.

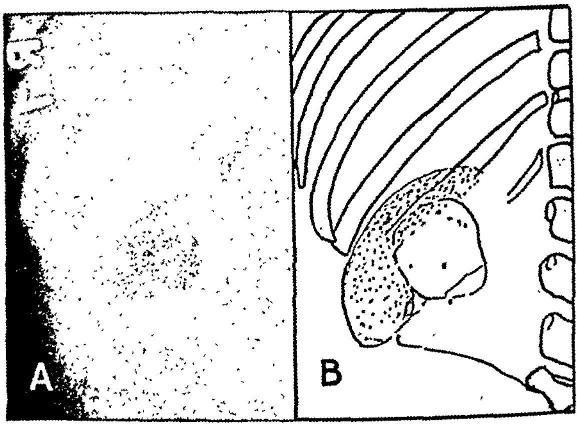

Fig. 3 (case 2).—*A*, the same as fig. 1*A* 8½ hrs. after third 12 hr. dose of iodopanoic acid (Telepaque); *B*, schematic representation of the same. Note that gallbladder shadow is almost obscured by gas in the hepatic flexure of colon.

Early in 1952 iodopanoic acid became available, and the remainder of the examinations were made with this material without added sodium bicarbonate. Results were excellent in patients older than 11 months. There were, however, failures in two infants aged 38 days and three months. Iodopanoic acid had been given in doses of 0.15 gm. per kilogram of body weight. Accordingly, 0.45 gm. of iodopanoic acid per kilogram of body weight was given in three divided doses at 12 hour intervals to the 3-month-old infant (case 2), and the first films were taken 2½ hours after the last dose. A distinct gallbladder shadow was seen at 6½, 7½, and 8½ hours (fig. 1, 2, and 3), and no shadow was seen 14 or 27 hours after the third dose. No clinical evidence of toxicity was observed after this large dose of iodopanoic acid. Since this infant had hydrocephalus and the dosage was based on body weight, she received a relatively larger dose of iodopanoic acid than would a normal infant of the same weight (table 1). We used diiodofluorescein in a 0.04 gm. per kilogram dose to study this same patient by the intravenous technique. The gallbladder shadow was seen only in the five hour film, at which time the blood level was 2% of the calculated initial blood level of dye. This timing indicated that no improvement in technique could be obtained by using this dye intravenously in an effort to eliminate intestinal absorption.

A 2-month-old infant was given 0.2 gm. of iodopanoic acid per kilogram of body weight divided into two 12 hour doses; his films made 6 to 10 hours after the second dose did not show a gallbladder shadow. In a 14-month-old infant (case 3) with acute pancreatitis, no gallbladder shadow was seen 4 to 12 hours after 0.15 gm. iodopanoic acid per kilogram were given. Two more doses were given at 12 hour intervals. Four hours after the third dose, the gallbladder shadow was intense and remained so for 8 hours (fig. 4). A third infant (case 1), aged one month, also given three 12 hour doses of iodopanoic acid, had a good shadow from 4 to 10 hours after the third dose but had no shadow after a single dose (fig. 5 and table 1). Iodopanoic acid in dosage of 0.1 gm. per kilogram of body weight was given to six children between 3 and 12 years of age with good visualization of the gallbladder shadow on single films from 10 to 18 hours after ingestion of the material.

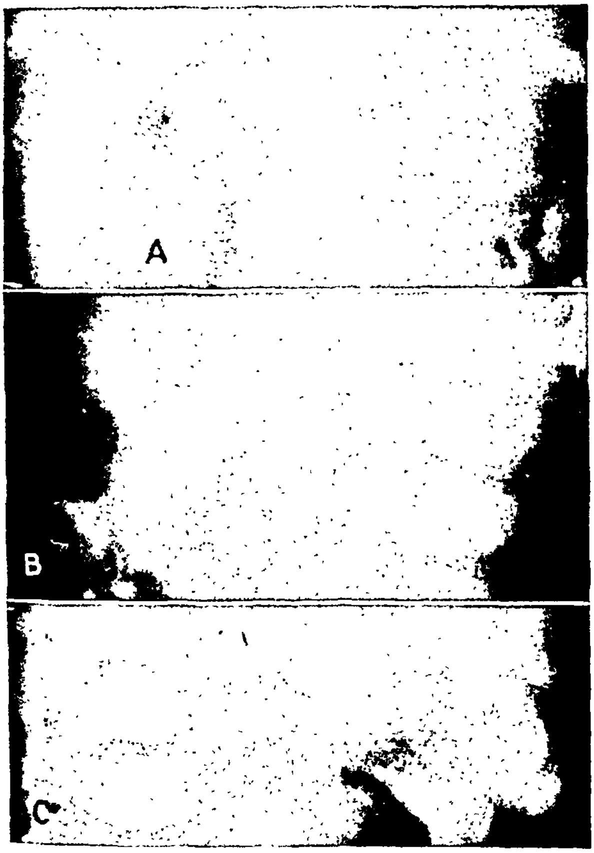

Fig. 4 (case 3).—Cholecystograms showing gallbladder 10 hr. after the third 12 hr. dose of iodopanoic acid (Telepaque) in *A*, posteroanterior, *B*, right lateral, and *C*, left anterior oblique positions.

The figures in table 2 present the time of roentgen examination in each patient and the density of the gallbladder shadow at each hour after the contrast material was given. The comparative density of the shadows was determined by a combination of visual appraisal and the aid of a densitometer. The gallbladder shadow was greatest between the fourth and ninth hour after the ingestion of the contrast agent in infants with normal biliary tracts. When the gallbladder shadow was seen in only one of a series of films, it was seen in films made at the fourth, fifth, or ninth hour.

The delayed excretion of contrast material by a diseased liver is illustrated in case 11. This infant had neonatal hepatitis with persistent jaundice until seven months of age. The sulfobromophthalein (Bromsulphalein) test at 11 months showed only 2% retention of dye in 30 minutes, but after the administration of iodopanoic acid filling of the gallbladder was delayed so that a good gallbladder shadow was not obtained until the 11th hour, and the most distinct shadow appeared at the 27th hour. After 52 hours the shadow had disappeared.

The gallbladder shadow failed to appear in six infants younger than 5 months and in a 10-month-old baby with brain damage who died one week later. Absence of the gallbladder shadow may have been factitious; it may have been obscured by the heavier shadows of iodopanoic acid in the hepatic flexure of the colon, by an accumulation of gas in the right upper quadrant (fig. 1, 2, and 3), or by improper positioning of the patient. The gallbladder shadow is not seen in the frontal projection of films of a 3-year-old child because of excess gas shadows but is well outlined in the left anterior oblique position. Films were made 11 hours after administration of 0.1 gm. per kilogram of iodopanoic acid and 40 minutes after a fat meal. This was an unsuccessful attempt to opacify the bile ducts during evacuation of the gallbladder following oral ingestion of fat. Shehadi[4] has reported that visualization of the bile ducts is possible in 50% of adult cases during the phase of contraction of the gallbladder when iodopanoic acid has been given.

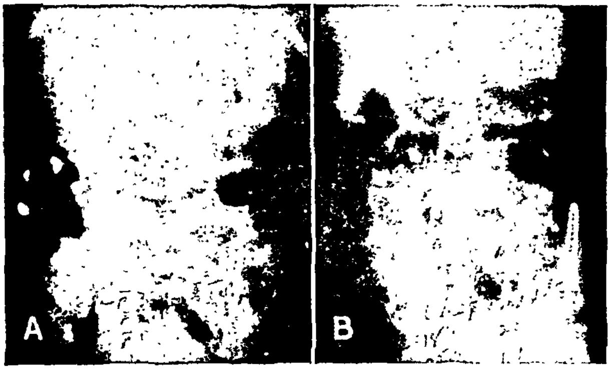

Fig. 5 (case 1).—Cholecystograms taken 6 hr. after the third dose of iodopanoic acid (Telepaque) in *A*, posteroanterior, and *B*, left anterior oblique positions.

Of interest is the finding that 5 hours after 1.4 gm. per kilogram of 70% sodium acetrizoate given intravenously to a 9-year-old boy for angiocardiography, both gallbladder shadow and outline of renal pelves and bladder were distinct. An attempt to use this technique in a 9-week-old infant, one of 3 months, and one of 5 months resulted only in good visualization of renal structure.

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[4] Shehadi, W.: Brochure on Telepaque, New York, Winthrop-Stearns, Inc., 1951, p. 8.

Intravenous administration of sodium decholin has been advised [5] to speed the flow of bile and thereby to permit earlier visualization of the gallbladder shadow. No information is available regarding its oral use for such a purpose. Administration of 0.125 gm. of dehydrocholic acid by mouth to one patient who also received iodopanoic acid resulted in no evidence of gallbladder shadow within the next four hours. This single trial was not an adequate test and more studies must be undertaken.

TABLE 1.—*Roentgen Visualization of Gallbladder Following Three Doses of Iodopanoic Acid (Telepaque) at Twelve Ho Intervals*

Case	Age	Gm./ Dose *	Hours After Third Dose 1	2	3	4	5	6	7	8	9	10	14	27	Diagnosis
1	36 days	0.6	..	..	..	++	++	++++	++++	++++	++++	+	..	..	Cleft lip and pal
2	3 mo.	0.8	..	0	+	++	++	+++	++++	+++	....	....	0	0	Hydro-cephalus
3	14 mo.	1.5	..	..	..	++++	++++	++++	++++	++++	++++	++++	..	..	Acute p creatitis

* Dose of Telepaque, 0.45 gm./kg.

TABLE 2.—*Degree of Roentgen Visualization of the Gallbladder in Infants*

Case	Age	Drug, Gm.	Hours After Dye 1	2	3	4	5	6	7	8	9	10	11	14	17	27	33	50	77	99	Diagnosis
4	42 days	0.6 P* and 0.6 Na†	..	0	0	?	±	0	0	0	..	..	.	.	..	..	..	..	..	..	Inguinal hernia
5	3 mo.	0.8 P and 0.5 Na	..	+	+	++	+++	++	+	+	++	..	..	0	..	0	..	..	..	..	Hydrocele
6	3 mo.	0.5 P and 1.0 Na	0	0	?	?	+	+	?	+	..	..	.	..	..	..	..	..	..	..	Inguinal hernia
7	5 mo.	1.3 P and 1.0 Na	..	?	+	+	++	+	++	+++	+++	..	..	.	..	0	..	..	..	..	Phimosis
8	6½ mo.	1.5 P	..	0	0	+	0	0	0	..	..	..		.	..	..	..	..	..	..	Sinusitis
9	7 mo.	1.0 P and 1.0 Na	..	..	+	+	0	+++	0	0	0	..	..	..	..	..	..	..	..	..	Pneumoni
10	11 mo.	1.5 P and 1.0 Na	..	..	?	?	++	++	+++	++	..	+++	++	..	..	+	..	+	..	..	Osteomye litis of rib
11	11 mo.	1.2 T‡	..	..	0	0	0	?	0	?	+	..	++	.	..	+++	..	0	..	..	Post hepa titis
12	17 mo.	1.2 P and 1.0 Na	..	..	0	0	0	0	0	..	+	..	..	..	..	..	..	..	..	..	Chordee
13	26 mo.	1.5 P	..	..	0	0	0	+	+	+	+	0	..	..	..	..	..	..	..	..	Post tube culous m ingitis
14	30 mo.	2.3 T	..	0	0	+	++	++	+++	++++	++++	++++	+++	..	+++	++++	+	++++	?	0	Abdomin pain
Total hourly films			1	6	11	11	11	11	11	10	8	3	3	1	1	5	1	3	1	1	
Times gallbladder shadow seen			0	1	3	5	6	7	5	6	6	2	3	0	1	3	1	2	0	0	
Time of most intense shadow			..	..	..	0	3	2	1	1	1	1	..	..	..	1	..	..	..	..	

* Priodax, 0.15 gm./kg.
† Sodium bicarbonate.
‡ Telepaque, 0.15 gm./kg.

Other causes of failure of visualization may be related to the degree of gastric acidity or intestinal alkalinity. This latter problem we have considered and believe that the addition of sodium bicarbonate to iodoalphionic acid may have improved the intensity of the gallbladder shadow. However, since we had no control studies wit iodoalphionic acid alone in the same patients, this mus be investigated further. It is said that patients with duo denal ulcers have poor gallbladder shadows despit adequate intestinal absorption of dye.[6] Since we have no examined the gastric secretion of any of these patient the part acidity plays is difficult to assess. It is know that gastric acidity is normal at birth and thereafter de clines during the first month of life [7] but then graduall increases throughout the rest of the first year.[8] Whethe these variations from a low of 10 cc. of 0.1 N hyd chloric acid to the higher levels of 35 to 50 cc. have a effect on the flow of bile and secondarily on the conce trating power of the gallbladder has not been tested.

We noted fluctuation in intensity of the shadows (ta 2) during the period of observation. This polycyc phenomenon has been described by Graham in adu and is caused by the emptying of the gallbladder a subsequent reabsorption of the agent into the portal sy tem. Since intestinal mobility in young infants is grea than in older persons, perhaps failure of visualization caused by too rapid excretion of material and inadequa reabsorption into the portal vein. If this is so, "loading" with larger doses at 12 hour intervals may solve the difficulty of inadequate concentration of contrast material.

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[5] Weiss, S.: Diseases of the Liver, Gallbladder, Ducts and Pancreas: Their Diagnosis and Treatment, New York, Paul B. Hoeber, Inc., 1935, p. 244.

[6] Eusterman, G. B.: Limitations of Cholecystography with Which Physicians Should Be Familiar, J. A. M. A. 90: 194 (Jan. 21) 1928.

[7] Miller, R. A.: Observations on Gastric Acidity During First Month of Life, Arch. Dis. Child. 16: 22, 1941.

[8] Cutter, R. D.: Normal Gastric Secretion of Infants and Small Children Following Stimulation with Histamine, J. Pediat. 12: 1, 1938.

SUMMARY

Twenty-seven cholecystographic examinations of 25 patients under 3 years of age were performed with 15 successful visualizations of the gallbladder. Among 12 infants under 6 months of age given iodoalphionic acid (Priodax) or iodopanoic acid (Telepaque), visualization was successful in 6. Iodoalphionic and iodopanoic acid were given orally in dosage of 0.15 gm. per kilogram of body weight. In four patients, double and triple doses were given without toxic effects. Sodium bicarbonate given with iodoalphionic acid did not clearly aid in absorption of the contrast material. Sodium acetrizoate (Urokon), 70%, given intravenously in dosage of 0.7 gm. per kilogram, did not make the gallbladders of three infants opaque.

The gallbladder shadow was most distinct in the majority of cases between 4 and 9 hours after administration of the contrast material. In three patients the gallbladder shadow was seen in only one film out of several exposed. This demonstrates the necessity for taking serial films, in general, earlier in young children than in adults. Some of the technical difficulties in cholecystography in infants are discussed.

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PRACTICAL POINTS IN MANAGEMENT OF CORD BLADDER

Gershom J. Thompson, M.D., Rochester, Minn.

In 1936, at a meeting of the Section on Urology,[1] I reported the performance of transurethral resection on the vesical neck of a paraplegic man; the operation resulted in great improvement in urinary function. This patient had sustained a fracture of the spinal column and was incontinent of urine but months later finally had regained vesical control. Shortly thereafter he could urinate only with great effort exerted by the abdominal muscles. The transurethral operation made it possible for him to void freely and empty his bladder completely but still control urination.

In a previous publication, Braasch and I[2] outlined some of the theoretical and practical aspects in patients who had atonic bladders, including a number of patients who had neurogenic vesical dysfunction. In an article with Jacobson,[3] I examined the problem further and described 10 patients; 6 of them were adults varying in age from 24 to 52 years in whom the neurogenic dysfunction resulted from myelodysplasia. Transurethral operations had been done in all 10 in an effort to improve vesical function. It was demonstrated that patients who had varying degrees of urinary retention, some complete, were able to empty the bladder after operation. Even though sphincteric resistance was reduced by the procedure, the majority of these patients had no incontinence.

Nesbit and Gordon,[4] in 1941, reported "too great an imbalance between the obstruction by the spastic internal sphincter and the forces available for evacuation" often was present in patients who had sustained traumatic lesions of the spinal cord and cauda equina. They also stated: "transurethral resection of the internal sphincter may so relieve the vesical outlet obstruction as to allow satisfactory periodic evacuation." Emmett and Bisquertt[5] have further described the experience at the Mayo Clinic with this problem. Because of early experiences with transurethral resection, I employed this operation during World War II to relieve symptoms in a group of sailors and marines who had received injuries to the spinal cord. This work was summarized in 1947.[6]

The literature is replete with articles concerning injury to the spinal cord. Prather[7] and Bors,[8] among many others, have written about this subject, and it might be presumed that nothing more need be said to clarify any aspect of the problem. Some of the material presented, however, has been somewhat complicated; therefore, it appears worth while to attempt simplification of the subject as much as possible and to present an outline of the management of a patient afflicted with neurogenic vesical dysfunction for the physician who encounters only occasionally such a patient. Some practical suggestions will be made concerning what should be done during the several phases of recovery.

GENERAL ASPECTS

The care of the urinary tract, including the bladder, is only a small part of the treatment required by the patient who has an injury to the spinal cord. The urologist manages the urinary aspect of the problem, while other physicians explore the damaged cord, apply body casts, institute measures to avoid decubitus ulcers, and direct other phases of early rehabilitation, especially the physical therapy necessary to smooth recovery. Covalt and associates,[9] in an excellent article, have reviewed many of the important points in nursing care during the early

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From the Section of Urology, Mayo Clinic.

Read in the Symposium on the Neurogenic Bladder before the Section on Urology at the 102nd Annual Meeting of the American Medical Association, New York, June 3, 1953.

[1] Thompson, G. J.: Transurethral Operations: Changing Conceptions During Past Five Years, J. A. M. A. 107: 1954-1958 (Dec. 12) 1936.

[2] Braasch, W. F., and Thompson, G. J.: Treatment of Atonic Bladder, Surg., Gynec. & Obst. 61:379-384 (Sept.) 1935.

[3] Thompson, G. J., and Jacobson, C. E., Jr.: Neurogenic Vesical Dysfunction Due to Spina Bifida and Myelodysplasia: Treatment by Transurethral Resection of Vesical Neck, Am. J. Surg. 61: 224-238 (Aug.) 1943.

[4] Nesbit, R. M., and Gordon, W. G.: Management of Urinary Bladder in Traumatic Lesions of Spinal Cord and Cauda Equina, Surg., Gynec. & Obst. (no. 2A) 72: 328-331 (Feb.) 1941.

[5] Emmett, J. L., and Bisquertt, J. E.: Transurethral Resection in Treatment of Vesical Dysfunction Secondary to Inflammatory, Degenerative and Traumatic Lesions of Spinal Cord, S. Clin. North America 27: 950-977 (Aug.) 1947.

[6] Thompson, G. J.; Nourse, M. H., and Bumpus, H. C., Jr.: Treatment of Paraplegic: Observations in Series of 101 Cases, J. Urol. 57: 1085-1096 (June) 1947.

[7] Prather, G. C.: Spinal Cord Injuries: Care of Bladder, J. Urol. 57: 15-28 (Jan.) 1947.

[8] Bors, E.: Urological Aspects of Rehabilitation in Spinal Cord Injuries, J. A. M. A. 146: 225-229 (May 19) 1951.

[9] Covalt, D. A.; Cooper, I. S.; Hoen, T. I., and Rusk, H. A.: Early Management of Patients With Spinal Cord Injury, J. A. M. A. 151: 89-94 (Jan. 10) 1953.

phases in the patient who has injury to the spinal cord and have made a splendid plea for early laminectomy and for early physical rehabilitation.

The attention required by the urinary tract, especially the bladder, during the period of recovery can be discussed conveniently from a practical standpoint by dividing it arbitrarily into three stages, namely, early, intermediate, and late. Actually, no clear division is present, and, of course, no positive time schedule can be applied. The rapidity of recovery varies considerably for a number of reasons, among which are the severity of the lesion and the thoroughness and efficiency of nursing and medical attention.

EARLY STAGE OF RECOVERY

Immediately after onset of paralysis, a Foley type of catheter, size 16 or 18 F., should be used for vesical drainage. Plain roentgenograms are made to determine the site and extent of injury to the spinal column. Early laminectomy is almost always advisable, although in certain instances, because of coincidental lesions or lack of facilities, it cannot be done immediately. As a rule, a body cast is applied; hence, it is not feasible usually to do excretory urography during the first few weeks. The catheter should be irrigated several times daily and changed once or twice weekly to avoid plugging of its lumen by excessive deposition of calcium. The catheter should be connected with a closed system of drainage, all the tubes and bottles should be carefully sterilized, and all irrigations should be done with thorough aseptic precautions. A liberal intake of fluids and a diet containing extra protein, or use of protein supplements given intravenously, are usually necessary. In men, injection of testosterone may enhance the metabolism of protein.

An excretory urogram should be made as soon as it fits into the rest of the program. The possibility of formation of calculi in the kidneys and ureters must be borne in mind. If fever develops, it is usually caused by obstruction somewhere in the urinary tract. Relief of the obstruction might require only better attention to the catheter; if obstruction is caused by a stone in the upper part of the urinary tract, ureteral catheterization might be necessary to dislodge the stone.

Nesbit and Gordon [10] proposed that neurogenic vesical dysfunction be divided into four groups. Emmett and associates [11] listed six types in their classification. Jacobson,[12] after studying a series of 16 dogs in which he had produced cord bladders by the section of certain terminal nerves or of the spinal cord at various levels, proposed three types: (1) the atonic bladder, (2) the autonomous bladder, and (3) the automatic or reflex bladder.

In attempting to classify any dysfunction or to predict the type of functioning bladder that a patient might ultimately have, I consider that the most important thing to remember during the first stage of recovery is that it is often impossible to be sure how completely the nerve tracts have been interrupted. This is true even with the advantage of examination of the damaged spinal cord during laminectomy. Impairment of the transmission of impulses might be only temporary, as the result of spinal shock; what appears to be hopeless paralysis can disappear.

As the months go by after injury, the physician with great optimism repeatedly tests the patient to note to what level sensory and motor functions descend. The urologist unavoidably becomes interested in sensory dermatomes, as well as which nerves supply the various muscles of the abdomen and extremities. But during these early months, he will generally confine his urologi efforts to the care of the catheter and the judicious us of urinary antiseptics or antibiotics. These should b employed only during febrile periods, for they will no sterilize the urine while the catheter remains in the urethra. The constant prophylactic use of an antiseptic, eve extremely small doses, is unwise practice.

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[10] Nesbit, R. M. and Gordon, W. G.: Neurogenic Bladder, Pennsylvania M. J. 43:1261-1268 (June) 1940.

[11] Emmett, J. L.; Albers, D. D., and Anderson, R. E.: Statistical and Analytical Review of Final Results of Transurethral Resection for Cord Bladder, J. Urol. 65:36-59 (Jan.) 1951.

[12] Jacobson, C. E., Jr.: Neurogenic Vesical Dysfunction: Experimental Study, J. Urol. 53:670-695 (May) 1945.

The patient who sustains injury to the cervical portion of the spinal cord and who has quadriplegia persisting for many months gains little if an automatic bladder develops. In most cases it is preferable to continue with drainage by means of an inlying catheter; however, if there are enough nurses available to manage the urinal, the male patient may prefer to use it rather than the catheter.

That the situation is not always hopeless in cases of prolonged paralysis caused by injury to the cervical portion of the spinal cord is illustrated by a patient who was treated some years ago. This man had a broken neck, and after three months he could barely move his hands. He could walk after nine months, although his gait was spastic. He did not have an automatic bladder, but he voided voluntarily with great effort. I performed a transurethral resection 27 months after the injury; since that operation, the patient has been able to void easily in large amounts and has good control.

Some urologists use the cystometer to measure the force exerted by the vesical wall or make cystometrograms to obtain a certain pattern of vesical activity before the patient is allowed to go without a catheter and make his first attempts at voiding. I have not used this refinement but instead have observed the patient carefully during the first few hours after removal of the catheter; no adverse effects have been noted from omission of cystometric study.

LATE STAGE OF RECOVERY

When six months have elapsed after injury to the spinal cord, it might be said that the late stage of recovery has been reached. As previously stated, this is an arbitrary interval and not one on which any firm convictions as to alteration of therapy can be based. Depending on the patient's general condition, the same therapeutic methods might be continued for several additional months. Those patients whose progress has been slow and in whom reasonably efficient vesical function has not developed should then be reexamined carefully. Another excretory urogram should be made, with a search for stones or evidence of severe infection. Cystoscopy should be repeated and the appearance of the vesical neck and wall carefully noted. Any calculi found in the bladder that might not have been detected by the urogram can be removed. Cystitis of important degree may be found and remedial measures can be instituted. This additional therapy is sometimes sufficient for the restoration of the proper balance in the detrusor-sphincter mechanism.

Patients who are recovering from a lesion of the cauda equina have been helped by proper instruction concerning urinary habits. If they attempt to void at regular intervals and do not permit the bladder to become overdistended, they often do extremely well. This might be called "urination by the clock." Some patients are assisted by a canvas band that is placed around the waist; this band provides support for the abdominal muscles when the patient tries to urinate and gives him something to push against. Some patients void much better in a sitting position than when they are standing. Some are helped by additional pressure applied to the abdomen with their hands. These are only a few of the methods that may be useful. Sometimes the patient himself will discover a unique method to assist in urination.

When other methods are not successful in restoring vesical function, reexamination of the neck of the bladder should be done with a view to the possibility of reducing its resistance to the forces of the detrusor muscle and the abdominal muscles by resection of a portion of the vesical outlet. Cystoscopy has revealed trabeculation of the vesical wall in many instances of neurogenic vesical dysfunction (fig. 1). Furthermore, if during cystoscopy the vesical neck is observed carefully during overdistention, it will usually be seen that the so-called internal sphincter undergoes spasm, during which it may narrow to a fraction of its original diameter (fig. 2). This is evidence of imbalance of the intrinsic mechanism.

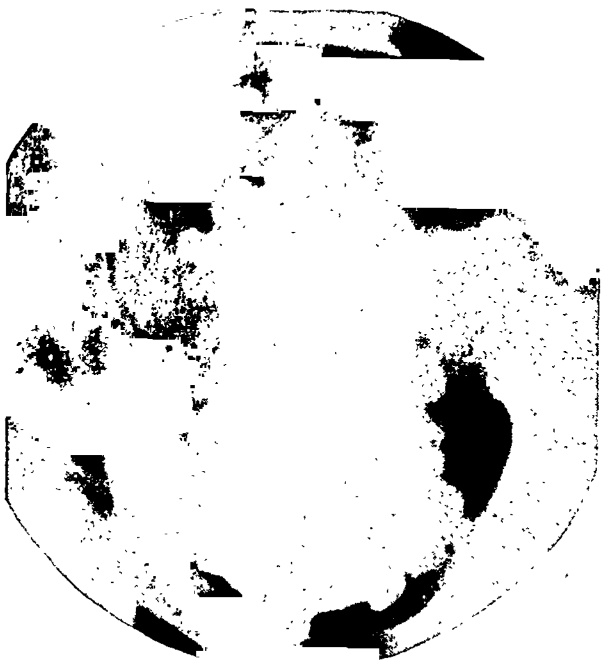

Fig. 1.—Cystogram of a typical cord bladder.

Jacobson sectioned the right pelvic nerve in a dog and produced unilateral hypertrophy (right) of the vesical musculature. The exact cause of this hypertrophy is not known; however, it would appear logical to assume that it is produced by imbalance of the nerve mechanism. When the upper or detrusor portion of the bladder contracts and attempts to expel urine, the sphincteric portion should relax but instead it becomes spastic and resists the outflow of urine. Inevitably this leads to thickening of the detrusor muscle, formation of cellules and diverticula, and finally to back pressure on the ureters and renal pelvis.

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12. Jacobson, C. E., Jr.: Neurogenic Vesical Dysfunction: Experimental Study, J. Urol. 53:670-695 (May) 1945.

necessary to reinsert the catheter for another week or two of drainage. When the patient can accomplish urination and can pass 8 to 10 fluidounces (approximately 240 to 300 cc.) or more in one voiding with little or no residual urine, vesical function can be regarded as efficient.

The patient who sustains injury to the cervical portion of the spinal cord and who has quadriplegia persisting for many months gains little if an automatic bladder develops. In most cases it is preferable to continue with drainage by means of an inlying catheter; however, if there are enough nurses available to manage the urinal, the male patient may prefer to use it rather than the catheter.

That the situation is not always hopeless in cases of prolonged paralysis caused by injury to the cervical portion of the spinal cord is illustrated by a patient who was treated some years ago. This man had a broken neck, and after three months he could barely move his hands. He could walk after nine months, although his gait was spastic. He did not have an automatic bladder, but he voided voluntarily with great effort. I performed a transurethral resection 27 months after the injury; since that operation, the patient has been able to void easily in large amounts and has good control.

Some urologists use the cystometer to measure the force exerted by the vesical wall or make cystometrograms to obtain a certain pattern of vesical activity before the patient is allowed to go without a catheter and make his first attempts at voiding. I have not used this refinement but instead have observed the patient carefully during the first few hours after removal of the catheter; no adverse effects have been noted from omission of cystometric study.

LATE STAGE OF RECOVERY

When six months have elapsed after injury to the spinal cord, it might be said that the late stage of recovery has been reached. As previously stated, this is an arbitrary interval and not one on which any firm convictions as to alteration of therapy can be based. Depending on the patient's general condition, the same therapeutic methods might be continued for several additional months. Those patients whose progress has been slow and in whom reasonably efficient vesical function has not developed should then be reexamined carefully. Another excretory urogram should be made, with a search for stones or evidence of severe infection. Cystoscopy should be repeated and the appearance of the vesical neck and wall carefully noted. Any calculi found in the bladder that might not have been detected by the urogram can be removed. Cystitis of important degree may be found and remedial measures can be instituted. This additional therapy is sometimes sufficient for the restoration of the proper balance in the detrusor-sphincter mechanism.

Patients who are recovering from a lesion of the cauda equina have been helped by proper instruction concerning urinary habits. If they attempt to void at regular intervals and do not permit the bladder to become overdistended, they often do extremely well. This might be called "urination by the clock." Some patients are assisted by a canvas band that is placed around the waist; this band provides support for the abdominal muscles when the patient tries to urinate and gives him something to push against. Some patients void much better in a sitting position than when they are standing. Some are helped by additional pressure applied to the abdomen with their hands. These are only a few of the methods that may be useful. Sometimes the patient himself will discover a unique method to assist in urination.

When other methods are not successful in restoring vesical function, reexamination of the neck of the bladder should be done with a view to the possibility of reducing its resistance to the forces of the detrusor muscle and the abdominal muscles by resection of a portion of the vesical outlet. Cystoscopy has revealed trabeculation of the vesical wall in many instances of neurogenic vesical dysfunction (fig. 1). Furthermore, if during cystoscopy the vesical neck is observed carefully during overdistention, it will usually be seen that the so-called internal sphincter undergoes spasm, during which it may narrow to a fraction of its original diameter (fig. 2). This is evidence of imbalance of the intrinsic mechanism.

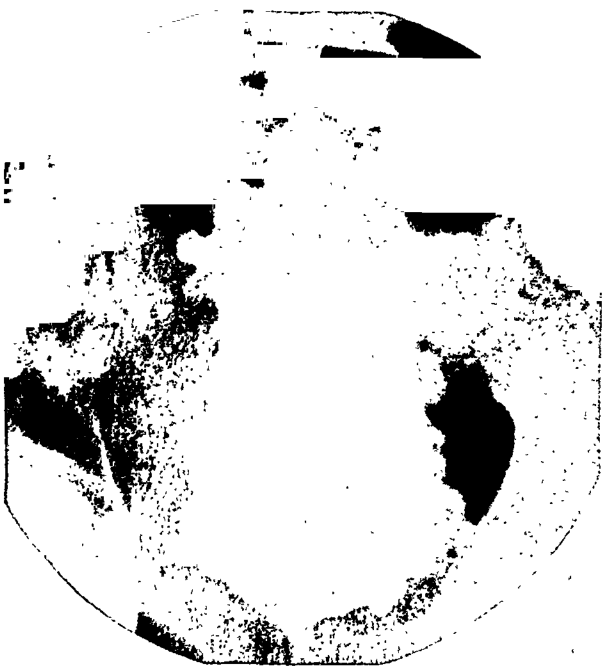

Fig. 1.—Cystogram of a typical cord bladder.

Jacobson sectioned the right pelvic nerve in a dog and produced unilateral hypertrophy (right) of the vesical musculature. The exact cause of this hypertrophy is not known; however, it would appear logical to assume that it is produced by imbalance of the nerve mechanism. When the upper or detrusor portion of the bladder contracts and attempts to expel urine, the sphincteric portion should relax but instead it becomes spastic and resists the outflow of urine. Inevitably this leads to thickening of the detrusor muscle, formation of cellules and diverticula, and finally to back pressure on the ureters and renal pelvis.

Bors, in discussing transurethral resection, stated: "large surveys from Veterans Administration Hospitals demonstrate that the method was used in from 11.4 per cent to 20.4 per cent of cases." Among the 623 patients observed by Bors, 71 underwent transurethral resection; good results were obtained in 95.8%. However, in 22 patients transurethral resection was supplemented by pudendal anesthesia, pudendal neurectomy, or subarachnoid alcohol block. Transurethral resection was employed in 57.8% of the series of 101 cases of cord bladder that have been reported previously by my group.[6] The operation failed in only 1 of these 58 cases and it is my opinion, in retrospect, that, if supplemental pudendal neurectomy had been performed, it would have been helpful in this case.

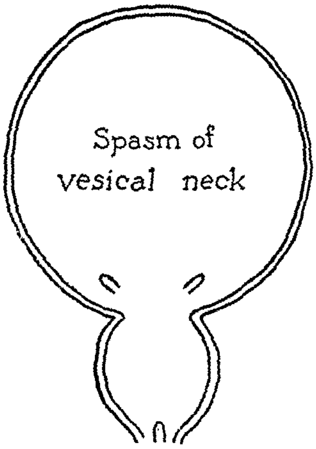

Fig. 2.—Typical spasm of the vesical neck in cord bladder.

Transurethral resection is indicated in the treatment of any patient who has a cord bladder and who has repeated episodes of infection in the urinary tract or who has extreme difficulty in voiding. A substantial amount of residual urine is almost always found. It is for this reason that infection occurs. Formation of calculi in the bladder and eventually in the upper part of the urinary tract will almost certainly result. The following case illustrates the value of transurethral resection of the vesical neck combined with other methods of physical rehabilitation.

REPORT OF CASE

In November, 1945, a 31-year-old white man fell five stories and suffered fracture of the 12th thoracic and first lumbar vertebrae, the pelvis, both ankles, and several ribs. He was paralyzed below the hips and was incontinent of urine and feces. Treatment was carried out in a hospital in Norway until April, 1947, when he was brought on a stretcher to the clinic. Considerable recovery of nerve function had already taken place by this time, but there was still paralysis of the sacral and lumbar nerves below the level of the second lumbar segment.

Roentgenograms revealed extensive osteoporosis of the lumbar portion of the spinal column, the pelvis, and the femurs, in addition to the fractured vertebrae. Bilateral staghorn calculi were present in the kidneys, together with multiple small calculi along the course of each ureter and multiple vesical calculi. Incontinence of the dribbling overflow type was observed; however, the patient was able to force out a few fluidounces of purulent urine by straining with the abdominal muscles.

Excretory urography revealed moderate dilatation of both renal pelves and the calices. Cystoscopic examination at first glance showed the vesical neck to be widely dilated; some relaxation of the external sphincter was observed. The vesical calculi were crushed, and the fragments were removed. Inspection of the vesical neck with a retrograde lens revealed that there was a curtain of hypertrophied tissue projecting down from the anterior half of the neck when the bladder was overdistended. The posterior lip of the vesical neck did not appear to be thickened or elevated, and no bar was present.

By means of the Thompson resectoscope, 2 gm. of tissue was removed in multiple pieces from the anterior half of the neck between the 9 o'clock and 3 o'clock positions. No tissue was removed from the posterior lip, which was not incised. The pathologist reported the removed tissue to be inflammatory muscle. Postoperative drainage by means of a catheter was continued for 72 hours. After removal of the catheter, the patient was able to void quantities of urine ranging from 100 to 250 cc.; catheterization after voiding disclosed no residual urine, whereas the preoperative residual urine had measured 300 cc.

A program of general rehabilitation was then instituted, during which all osteoporosis of the bones disappeared and the renal and ureteral calculi disintegrated and were passed in multiple small fragments. Muscular strength gradually returned to the upper parts of the legs, and the patient was taught to walk, first with the use of crutches and later with glider canes, after many months of graduated effort.

Vesical function improved so that he could retain several hundred cubic centimeters of urine and had no incontinence. By this time ambulation had improved so much that he was discharged from the hospital to live in an apartment. He finally purchased an automobile, drove it to New York, and returned to Norway. He resumed his former occupation as manager of several stores and has since remained in good health. Final excretory urograms revealed normal renal function; no stones were visible in any portion of the urinary tract. Results of urinalysis and of urinary cultures were within normal limits.

COMMENT

Of greatest importance in the recovery of this patient was the physical therapy that was received over a period of many months. This was made possible, however, by correction of the disorder of the urinary tract, because prior to such correction repeated episodes of fever and chills had had the effect of so weakening and demoralizing the patient that he had almost lost all hope for recovery.

The degree of improvement just described is not unique. It has been observed in a large number of patients who have had the advantage of team therapy. Such patients have not been forced to put up with a poorly functioning bladder that retains a large quantity of infected urine. A bladder that cannot empty is an extremely inefficient reservoir for urine. Its capacity obviously is reduced not only by the imbalance of the muscles but by the infection that supervenes and makes it irritable. Many patients who have neurogenic vesical

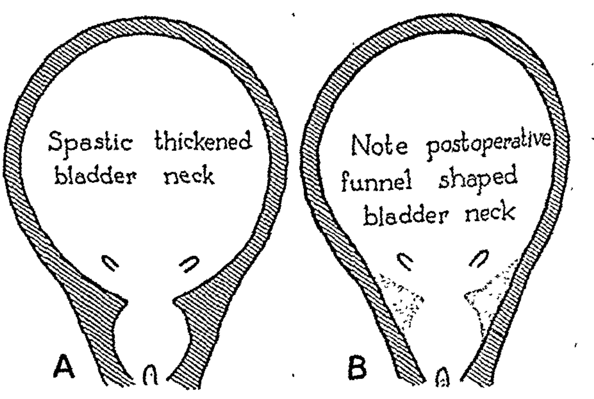

Fig. 3.—*A*, hypertrophy of the vesical musculature in cord bladder. *B*, funnel-shaped vesical neck resulting when the hypertrophied portion of the vesical neck (shaded part) is removed.

dysfunction experience repeated relapses of infection that are relieved by the intermittent use of an inlying catheter. Some ultimately are advised by their physicians to have permanent suprapubic cystostomy, which in my opinion should be used only in the treatment of patients who have paralyzed arms and cannot help themselves.

The use of transurethral resection of the vesical neck as a means of relieving any patient who has long-standing neurogenic vesical dysfunction should be seriously considered. The fear that incontinence might be increased by the operation has little basis in fact. The external sphincter is not disturbed if the operation is performed properly. Resection of tissue is confined to the vesical neck and prostatic region; the external sphincter is not cut or weakened in any way (fig. 3). I have questioned a number of urologists who have had extensive experience in transurethral operations; they agree that incontinence is corrected by transurethral procedures in the great majority of cases. There are a few patients whose vesical function is of the automatic type who will at times soil themselves if they do not watch the clock and correctly time the interval between urinations. As a rule, these are patients whose neurological defects are above the conus.

The results of transurethral resection are best in those patients whose original injuries occurred at or below the conus. Recovery of nerve function in many is relatively complete; some have only a defect in the sacral nerves, with resulting saddle anesthesia or minimal weakness of the muscles that control the feet. Transurethral resection has restored voluntary urination in many such patients who prior to operation could not void at all and had been forced to catheterize themselves regularly for periods ranging from many months to, in one case, 16 years.

It should be emphasized that many patients who sustain injuries to the spinal cord will spontaneously recover a satisfactory type of vesical function without the help of transurethral operations. In these patients, the bladder empties all but 1 or 2 fluid ounces (about 30 to 60 cc.); the urine remains entirely clear, or extremely rare episodes of cystitis may occur. These patients will do well and require, at most, only periodic chemotherapy to control the mild attacks of infection.

I wish to emphasize again that patients who have long-standing injuries to the spinal cord and who experience repeated attacks of infection of the urinary tract, who cannot void with a satisfactory, uninterrupted stream, with average effort, or who have a distressing incontinence, should be given the advantage of careful survey by a urologist who is skilled in transurethral procedures. Deformities of the vesical neck that can be corrected by transurethral resection will be found in a great percentage of such patients. The disability that these persons experience can be reduced appreciably or eliminated entirely by operation.

SUMMARY AND CONCLUSIONS

Cord bladders should be classified only on the basis of whether they are efficient or inefficient. An efficient cord bladder is one that the patient can empty or nearly empty. Long periods of continence are observed between urinations. Pyuria is absent or minimal. Stones do not form in the bladder or upper part of the urinary tract. Febrile attacks occur rarely if at all. An inefficient cord bladder is one that does not empty. As a rule, it retains 5 fluid ounces (about 150 cc.) or more of residual urine, which is usually infected. The patient is wet most of the time or has an extreme urgency type of incontinence. Stones are sometimes present, and febrile attacks occur frequently. Transurethral resection of the vesical neck can often convert an inefficient cord bladder into an efficient one.

CLINICAL MANAGEMENT OF URINARY RETENTION IN CHILDREN

Tracy O. Powell, M.D., Los Angeles

Pronounced urinary retention (megalobladder) in children is related in most cases to congenital lesions of the urogenital tract. The majority of these lesions are neuromuscular in origin. Effective treatment depends on accurate evaluation of the cause. Unless prompt and adequate urologic treatment is instituted, however, profound damage to the kidneys, with resultant shortening of the child's life, can ensue. This problem is encountered frequently in large pediatric clinics. The present study reviews the mechanics of urinary retention, describes a plan of examination that has proved useful in determining the type of retention in the particular case and its cause, and discusses treatment.

Although in many cases of pronounced urinary retention neurologic lesions may not be demonstrable, I am convinced the majority are of neurogenic origin. Etiological factors in neuromuscular dysfunction of the bladder in children include the following lesions:

Neuromuscular Lesions.—Neuromuscular lesions may be extrinsic to the musculature of bladder (including both upper and/or lower motor neuron lesions). Such lesions may be associated with cerebral palsy, cord bladder, spina bifida with meningocele, anomalies of the spine and sacrum, poliomyelitis, arachnoiditis, and tumors. Lesions intrinsic to the musculature of the bladder may be associated with Hirschsprung's disease, decreased numbers of ganglions (as demonstrated by neurohistological studies), and pseudovalves (indicating some type of nerve lesion).

Mechanical Obstructions.—Mechanical obstructions may be due to pinpoint meatus, urethral stricture, contracture of the vesical neck, ureterocele, giant verumontanum, or true valves, without infection. Severe infection in conjunction with any of these obstructions may produce atony of the bladder, which is often similar to that of neurogenic etiology. The etiologic factor of prime significance in the lesion with which this paper is concerned, megalobladder, is the intrinsic neuromuscular lesion. Incidentally, this vesical condition should not be

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From the Urologic Service, Children's Hospital.

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confused with cord bladder, the cause of which is related to lesions extrinsic to the vesical musculature.

Minor mechanical obstructive lesions, such as pinpoint meatus, urethral stricture, and even contracture of the vesical neck, are fairly easy to diagnose; they rarely produce the extreme variety of retention and vesical distention so hard to manage clinically. Correction or removal of such minor lesions generally will effect permanent relief. Transurethral resection of obstructive tissues about the vesical neck may be sufficient. When such lesser obstructions have caused urinary retention of long duration with pronounced infection, however, the clinical picture may resemble that of the more serious condition, megalobladder.

INTRINSIC NEUROGENIC LESIONS OF THE BLADDER

Swenson's [1] demonstration of a deficiency of ganglions in the trigone and near the ureteral orifices in megalobladder is especially significant. Whether or not his preliminary observations will be confirmed by studies in large groups remains to be learned. Certainly, clinical observations in patients with megalobladder indicate behavior similar to that in cases of urinary retention associated with Hirschsprung's disease in which there quite obviously is neuromuscular dysfunction of the bladder.

Pseudovalves.—In cases of megalobladder due to intrinsic neurogenic lesions of the bladder, it appears on cystographic and cystoscopic examination that the dome and the main portion of the detrussor lack stimuli arising from the trigonal level. The mechanism of voiding seems to be limited to the proximal portion of the bladder, without the cooperation of the dome; this, together with improper function of the internal sphincter, leads to flabbiness and infoldings of the bladder. These folds enter the neck and the posterior urethra, producing pseudovalves and thereby resulting in definite obstruction. The pressure from the abdominal musculature on the greatly distended bladder forces these folds further into th urethra, oftentimes dilating the posterior urethra in th male, causing depression in the posterior urethra and th neck of the bladder with relative elevation and engorg ment of the verumontanum and accentuation of i frenula (fig. 1). This infolding often is mistaken for true valve. The veru may become large enough to cor tribute to the obstruction.

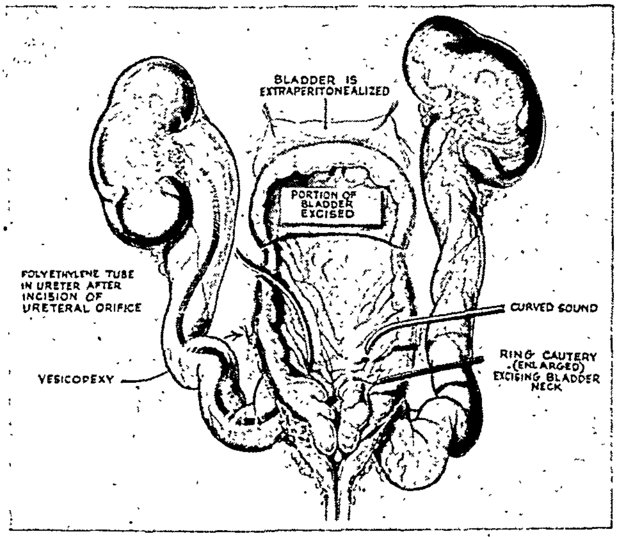
BLADDER IS EXTRAPERITONEALIZED
PORTION OF BLADDER EXCISED
POLYETHYLENE TUBE IN URETER AFTER INCISION OF URETERAL ORIFICE
CURVED SOUND
RING CAUTERY (ENLARGED) EXCISING BLADDER NECK
VESICOPEXY

Fig. 1.—Transvesical bladder neck resection, intubation of ureters and renal pelves, and excision of flabby posterior wall of bladder.

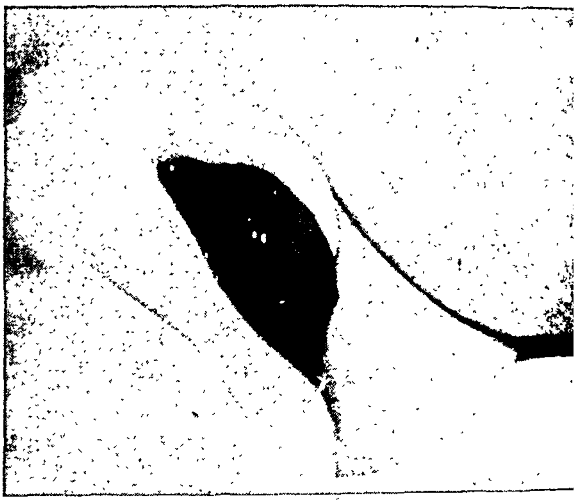

Fig. 2.—Photograph showing the trigone of the bladder, includi ureteral orifices and small ureterocele, being extruded through the urethı The patient was a 13-month-old infant with a large, flabby, atonic bladd

True valves are extremely rare and constitute a perm nent obstruction. Bell [2] has mentioned that in 32,3 postmortem examinations only 3 instances of a tr valve formation were found. In none of the 30 cases huge megalobladder and megaloureter did he find a evidence of valves or other obvious obstructions. In review of the pathological diagnoses in the leading ho pitals of Los Angeles, including the Los Angeles Gener Hospital, such valves were found to be extremely ra indeed.

The occurrence of pseudovalves as a clinical cond tion, however, is relatively common in my opinion. The importance as an obstructive urologic lesion needs en phasis. Pseudovalves may be observed clinically; hov ever, at autopsy such formations have been obliterate since the bladder has become fixed and usually ha assumed its normal contour as a result of being empt

Some of the patients with pseudovalve formatio observed on the clinic service at this hospital had prev ously been examined cystoscopically by competer urologists of wide experience and their lesions had bee diagnosed as true valves. In some of these cases, on oper ing of the posterior urethra retropubically, before an instrumentation could have obliterated the valves, larg folds entering the posterior urethra were found, wherea true valves could not be demonstrated.

Vesical Extrusion Through the Urethra.—In th female the musculature, as well as the mucosa, of th megalobladder may pass through the urethra and eve appear externally. In three cases a small ureterocele wa extruded through the urethra. This became increasingl distended with urine, giving rise to a mechanical tractio device that, on aggravation by the baby's crying and b the pressure of the abdominal musculature, forced ever sion of the bladder. Thus the entire trigone, ureteral orifices, and about half the bladder were pulled and pushed through the urethra to the outside (fig. 2). Without the ureterocele these bladders would not have remained on the outside but would have passed back through the urethra; in fact, the condition might have been missed as the obstructive cause for the urinary retention. Obviously such an extreme situation could not occur in the male.

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[1] Swenson, O.: New Concept of Pathology of Megaloureters, Surgery 32:367 (Aug.) 1952.

[2] Bell, E. T.: Renal Diseases, Philadelphia, Lea & Febiger, 1946, p. 121.

PLAN OF EXAMINATION

Patients with intrinsic neurogenic lesions of the bladder observed in the past in many instances did not receive proper treatment owing to the inadequacy of examination. During the last five years my associate, Dr. H. H. Edelbrock, and I have developed a more thorough plan for examination that is offered as a guide to treatment.

Clinic and Office Routine.—The clinic and office routine includes a general survey, with a review of the history and physical examination. The urologic survey includes measurement of residual urine and capacity; determination of the type of infection; blood chemistry studies; intravenous urograms; and cystograms, cystometrograms, and occasionally sphincterometrograms. The neurosurgical consultation includes consideration of early surgical treatment in cases involving lesions such as meningocele and examination for disturbances of motor and sensory pathways. The neurourologic examination includes evaluation of dysfunction of the bladder accompanying lower or upper motor neuron lesions, with attention to the bulbocarvernosus reflex (S-2 and S-3), anal sphincter tone (S-2 and S-3), and anal reflex (S-5).

Hospital Routine.—In the hospital the study includes cystoscopy, retrograde pyelograms, and a barium enema. A pudendal block is performed, particularly in cases of vesical imbalance associated with upper motor neuron lesions.

CLINICAL OBSERVATIONS IN FIFTY CASES

More than 50 cases of megalobladder now have been studied. In every instance a large, flabby bladder obstructed the outlet and had produced changes due to back pressure, such as huge ureters and very severe hydronephrosis. To one not familiar with this type of case, it is almost unbelievable that children of 8 or 10 years could have renal pelves that hold 300 or 400 cc. each, ureters as large as the small bowel, and bladders that hold 1,000 to 1,200 cc. Yet in such cases an ample vesical outlet could often be demonstrated in that an adult cystoscope could be readily introduced through the urethra.

I am of the opinion that the obstructing mechanism is functional, being due to extrusion of folds of the vesical wall into the neck and the urethra. There appear to be all gradations of severity, from extreme cases to those in which there are minimal folds at the vesical neck that may or may not obliterate the outlet.

Although this discussion does not embrace cord bladder, some of the principles in management of that lesion have proved useful in cases in which folds at the vesical neck are minimal and detrussor function exists. If detrussor activity can be stimulated to produce pressures above the sphincter tone, a training program often will develop a satisfactory automatic bladder. Likewise in cases of flaccid vesical sphincter and atonic bladder, suprapubic massage with pressure (Credé) may produce a surprising degree of urinary continence. Dr. Ernest Bors [3] helped in formulating the plan of examination and his discussion of technique involved in these training procedures should be consulted. Following is a report of a case from our series in which this plan was used.

REPORT OF A CASE

Examination.—A boy, aged 3 years 8 months, was examined in December, 1947. The neurological history revealed that he had congenital hemisacrum with pes cavus of the left foot. There was a urologic history of urinary retention with chills and fever. The pain sensation was absent at the S-2 and S-3 levels on the left, and the touch sensation was diminished at the same levels. There was no Babinski reflex. The ankle jerk was absent on the left. The knee jerk was present bilaterally, and the cremasteric reflex was absent bilaterally. The bulbocavernosus reflex was positive, and the anal tone was good. Sphincterometry always revealed increased tone. Cystometry revealed that the bladder was initially atonic, then hypertonic after suprapubic resection. The tone was near normal at the last examination, after pudendal neurotripsy, with a few detrussor waves. Intravenous and retrograde pyelograms revealed bilateral pyelectasis and ureterectasis. Cystoscopy showed a bladder neck of the iris diaphragm type, with infolding of the vesical neck into the prostatic urethra. The barium enema revealed no abnormalities.

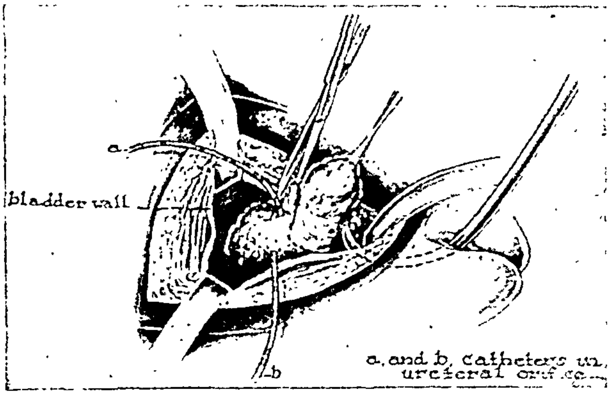

Fig. 3.—Redundant portion of trigone and bladder neck being resected in an infant.

Treatment by Open Resection.—In 1947 the child was incontinent and his bladder was distended. The capacity was 740 cc. There was 460 cc. of residual urine. In 1948, after the first resection, he was incontinent, with spasms of the bladder. The urine constantly showed evidence of infection. The capacity was 215 cc., with 170 cc. of residual urine. In 1950, after the second resection, he had the same symptoms. The capacity was 120 cc., with 90 cc. of residual urine.

Treatment by Pudendal Neurotripsy.—In 1951, before pudendal block, he strained to void. The bladder capacity was 120 cc., with 90 cc. of residual urine. After pudendal block, the patient voided easily. The capacity was 120 cc., with 2 cc., of residual urine. In 1951, after pudendal neurotripsy on the right side, his condition had improved. At the last examination he was continent, with a capacity of 320 cc. and only 15 cc. of residual urine.

When pudendal block was finally carried out in this child, the results indicated that pudendal neurotripsy probably would be of definite benefit. Accordingly, neurotripsy was done by Bors according to the technique of Huggins, Walker, and Noonan,[4] effecting complete elimination of obstruction and reducing residual capacity. Had pudendal block been done at the time of the initial examination, this child would have been spared almost four years of morbidity.

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[3] Bors, E.; Comarr, A. E., and Moulton, S. H.: Role of Nerve Blocks in Management of Traumatic Cord Bladders, J. Urol. 63:653 (April) 1950.

Very few patients in this category, however, have come to our attention; usually in this type of case there are associated bony anomalies such as hemisacrum. In a number of instances good response to repeated pudendal block has been exhibited. A more lasting effect may be accomplished by repetition of the block, eliminating the necessity for neurotripsy.

SURGICAL TREATMENT

Minor vesical infoldings and contracture of the neck of the bladder, with but minimal damage to the upper urinary tract, may be amenable to transurethral resection. For more pronounced obstructive types of change, particularly the large, flabby bladders with huge irregular, distorted ureters and hydronephrosis, an effective plan of surgical treatment has been designed (fig. 1).

The bladder is approached through a transverse incision just over the pubic bone; the vesical neck and posterior urethra are opened as in retropubic prostatectomy. The large mucosal folds of the bladder are trimmed away, and the entire internal sphincter is enlarged by the electrosurgical loop. In some instances the amount of loose tissue in the region of the trigone is too great for resection with the electric loop but can be completely resected with knife and scissors and the cut edges resutured (fig. 3). In the majority of these patients the ureteral orifices are patent, and reflux is common; therefore, resection of the ureteral meatus is of little or no consequence. By use of male sounds corresponding in size to the enlarged ureters, patency of the ureters from the bladder to the renal pelves can be determined. If any degree of stricture is evident, dilation by manual manipulation of the ureter retroperitoneally over the dilating sound can be effected. An extremely long and tortuous ureter can be shortened by the "pull-through" operation. Completion of these procedures permits intubation of the enlarged ureters up into the renal pelves with no. 12 or no. 14 Levin tubes or, if preferred, polyethylene tubing. At the ureteral orifices the tubes are fastened by no. 0000 chromic surgical suture, brought out through small stab wounds on each side of the bladder, and thence brought through the incision. The superior half of the greatly enlarged bladder is resected, so that essentially a hemicystectomy is done. Often a few sutures are taken on each side of the bladder near the ureteral orifices to prevent the bladder from folding in at the neck. A Foley catheter of suitable size is left withir the urethra and entering the bladder but in boys neve is pulled into the fossa. Small pieces of absorbable gelatin sponge (Gelfoam) are placed around the urethr catheter in the open vesical neck. The catheter is pulle taut, but no tension is left on the catheter. Bleeding i completely controlled by electrocautery at the time o resection. The bladder is closed tightly in two layers A Penrose drain is left in the wound down to the bladde The fascia and muscles are closed in layers.

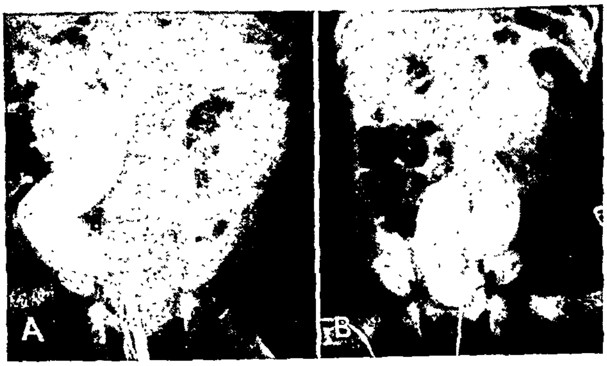

Fig. 4.—*A*, pyeloureterogram showing dilatation of the upper urinary tract on the right side in an infant of 2½ months. *B*, pyeloureterogram showing more pronounced dilatation of the upper urinary tract on the left side in the same infant.

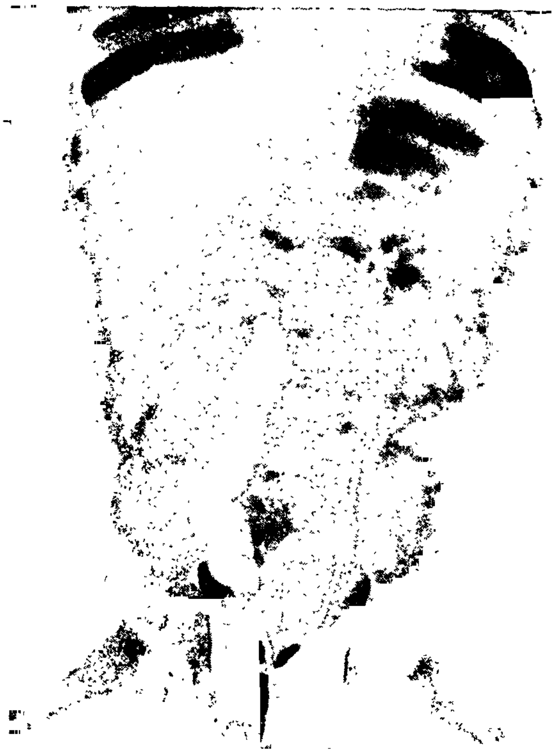

Fig. 5.—Bilateral pyeloureterogram in the infant shown in figure 4, year following the operation, except that the right ureter was used as control and was not intubated. Note the remarkable improvemen particularly of the left ureter and pelvis.

Minimal irrigation is permitted, and only sterile isotonic sodium chloride solution is used. The tubes withi the ureters are left in place for two to six weeks, and irrigation is limited to an amount necessary to assure thei being kept open. When there are advanced pathologica changes in the upper urinary tract, if the splinting tube have been properly placed and their positions maintained, it is advisable (convenience and expense permitting) to prolong the period of ureteral intubation. Regeneration of the kidneys in young babies following relief from pronounced obstruction can be remarkable (fig. 4 and 5). Such profound changes as illustrated obviously would not be expected in older children in whom infections have become chronic and extensive fibrosis exists. This one combined operation makes possible elimination of multiple individual surgical procedures such as nephrostomy, ureterostomy, ureteroplasty, permanent cystostomy, transurethral resection, and use of permanent catheters.

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[4] Huggins, C.; Walker, A. E., and Noonan, W. J.: Sympathetic and Pudendal Neurectomy for Vesical Atony, J. Urol. 41: 696, (May) 1939.

SUMMARY AND CONCLUSIONS

In infants and children with retention of urine it is imperative that immediate drainage be instituted to avoid damage to the kidneys. Drainage should be maintained until a complete examination has been carried out and treatment of the essential lesion is under way. In most instances a retention catheter is necessary.

The majority of such patients suffer from congenital neurogenic anomalies of the vesical musculature. When the bladder is large and flabby, vesical folds may obstruct the neck, producing changes in the upper urinary tract due to back pressure. This clinical entity as referred to here is termed megalobladder for lack of a better term, and is to be distinguished from cord bladder. In some instances these folds extend into the urethra and may be mistaken cystoscopically for true valves. The frequent occurrence of such obstructive folds, referred to as pseudovalves, and the rare existence of true valves are emphasized. In girls the vesical folds may extrude through the urethra; if ureterocele exists, the bladder as well as the lower ends of the ureters may be extruded.

A plan for examination is presented that facilitated diagnosis and permitted more specific choice of treatment in 50 cases of pronounced urinary retention in children. In a few cases pudendal block and pudendal neurotripsy were of diagnostic and/or curative value; in the majority surgical treatment was necessary.

The aim of surgery is to promote urinary compensation as quickly as possible. Transurethral resection of vesical folds (pseudovalves) was effective in minor degrees of obstruction. An operation combining resection of excess tissue at the neck, manipulation and/or shortening of ureters, ureteral intubation and resection of the superior portion of the bladder—in some instances, hemicystectomy—was useful. *It permitted elimination of multiple* individual surgical procedures, an important consideration in view of the advanced pathological changes in these critically ill children.

Careful management postoperatively, regardless of the type of surgical treatment, is of extreme importance. Adequate drainage must be maintained until the urinary tract can become compensated. It may be necessary to retain the catheter, suprapubic cystostomy, or nephrostomy for months or years.

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ANATOMY AND NERVE SUPPLY OF URINARY BLADDER

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The anatomists have described the human urinary bladder as a pear-shaped structure made up of an external longitudinal layer of muscle fibers, a middle circular, and an inner longitudinal layer extending from the ureteral orifices down into the urethra. These fibers can be traced to the area about the verumontanum in the male bladder and to the vicinity of the external sphincter in the female. This layer of muscle fibers is easily dissected free from the underlying muscle fibers and is usually called the trigone. We have found the two remaining layers not to be distinct but to consist of freely interlacing muscle fibers, and we prefer to designate them as the detrusor muscle of the bladder.

Scher[1] has recently described "right and left lateral muscle bands which are more distinct and separate than the trigone muscle." These bands are described as originating in the posterior wall of the bladder and passing over the lateral wall of the bladder and the internal vesical orifice, through the prostatic urethra in the male and deep urethra of the female, to the region of the external sphincter. We have noted condensation of fibers that suggests what Scher has described; however, we have always found that the fibers are not a distinct structure but interlace with other fibers. They are not a separate structure comparable to the trigone muscle.

ANATOMY AND EMBRYOLOGY

The urinary bladder is primarily a hindgut derivative, as are the posterior urethra in the female and the prostatic urethra in the male. The exception is the trigone muscle, which is of wolffian duct derivation. The nerve supply of the bladder and posterior urethra is chiefly of sacral origin. The trigone is the exception, deriving its innervation from the hypogastric, or sympathetic, nerves. At the urologic seminar of the south central branch of the American Urological Society recently, Patton stated he found the bladder wall continuous with the prostate and without a fibrous separation. He stated he would not expect a fibrous septum, because fibrous tissue implied stress. He stated that, when muscle fibers in vitro were subjected to pull or stress, fibroblasts were promptly layed down.

We have previously described the prostate as the glandular portion of the bladder neck. We pointed out in 1944[2] that, in 4th to 7th month embryos, the glands in the bladder neck are nearly as numerous and well developed in the female as in the male. After the 7th month, there is a regression of the glands in the female. The fibrous septums, which have been interpreted as septums between lobes of the prostate, are fibrous bands resulting from contractions of the trigone in opening the internal vesical orifice during urination.

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Read in the Symposium on the Neurogenic Bladder before the Section on Urology at the 102nd Annual Meeting of the American Medical Association, New York, June 3, 1953.

[1] Scher, S.: Some Observations on Anatomy of Bladder Neck and Posterior Urethra with Reference to Prostatic Observation, Brit. J. Urol. 22: 116-124 (June) 1950.

[2] Van Duzen, R. E.: The Glands of the Female Urethra, Urol. & Cutan. Rev. 48: 363-364 (Aug.) 1944.

As we pointed out earlier in this paper, the detrusor muscle and the prostatic urethra are innervated by the parasympathetic or sacral nerves, the nervi erigentes, arising from the sacral segments 2, 3, and 4 of the spinal cord. The trigone, having been derived from the wolffian duct, receives its nerve supply from the hypogastric, or sympathetic, nerves, which have arisen from a higher segment of the embryo.

The center in the brain for urination is located in the preoptic region of the hypothalamus. Stimulation of this region results in the contraction of the bladder wall and emptying of the bladder. It is believed that a pathway leads backward from this center through the hypothalamus and finally passes, perhaps, in the ventrolateral white column of the cord to end on cells in the gray column at the level of S 2, S 3 and S 4. The main group of fibers seem to end on S 3, as they apparently constitute the greater portion of the fibers forming the pelvic splanchnic nerve, or the nervi erigentes. It is well to state, however, that the exact pathway through the brain stem and cord has not been definitely established at this time.

We believe much of the confusion about the act of urination woud cease if it was recognized that the muscular wall of the bladder and the posterior urethra in the female, and the prostatic urethra in the male, is a continuous structure.

THE ACT OF URINATION

Young[3] first suggested in 1918 that the trigone helped to open the internal vesical orifice. He stated: "This brings up the question of the part taken by the trigone in the act of urination. It seems to me to indicate that one function of the trigone is to pull open the interior sphincter of the bladder. I have long held to this view, as I have frequently observed, during cystoscopy, that if violent desire to urinate came on, the trigone would contract greatly and the prostatic orifice would open widely. The median, posterior portion being apparently drawn backward by the muscle fibers which run from the trigone down in the posterior urethra, and which were seen to contract violently. The opening of the internal sphincter during urination will have to be viewed, therefore, not as an inhibitory action, as heretofore, but as the result of the contraction of the powerful trigonal muscle, which passes in the form of an arc through a weaker muscle of circular shape (the vesical sphincter) and pulls it open when it contracts."

In a previous paper,[4] one of us (R. Van D.) has described his conception of the act of urination. It is an elaboration of that advanced by Young and his coworkers, Wesson,[5] and Macht.[6] According to this theory, the phases of urination are as follows. 1. The first act of urination is the contraction of the trigone. This depresses the posterior lip of the internal vesical orifice. 2. The next stage is a wave of contraction in the detrussor muscle, starting in the region of the internal vesical orifice and extending backward toward the dome of the bladder. This contraction wave, as we have previously pointed out, causes a lateral pull on the internal vesical orifice, further opening it. This should be remembered because the trigone is supplied by the sympathetic nerves and the detrusor muscle by the parasympathetic, or sacral, nerves. If the trigone is paralyzed by section of the sympathetic nerves or by drugs, the first act of urination, that is, the depression of the posterior lip of the internal vesical orifice, is omitted. The detrusor muscle must open the internal vesical orifice by lateral pull on the circular fibers about the internal vesical orifice and by increasing intravesicular pressure. In such cases we see hypertrophy of the detrusor muscle fibers, indicating it is not so effective as the normal mechanism. When the detrusor muscle is paralyzed, there is no tonicity of the bladder and there is no expulsive force; hence there is complete retention. Later the intrinsic nerve control manifests itself and the bladder tonicity returns to some extent. 3. The last phase of urination consists of contraction of the abdominal muscle and increase in the intra-abdominal pressure. In contrast to these conditions, there may be hypertonicity of either muscle. By the combination of an abnormal physiological state of one muscle with a normal or abnormal state of the other, various conditions are produced, giving a diverse chain of symptoms. Only by determining which muscle or what nerves are affected is rational treatment possible. There has been considerable discussion as to whether there are dilator fibers in the bladder. We recently saw a patient who did not empty his bladder when the cystoscope sheath was in the bladder. Pressure was applied over the suprapubic region and about 400 cc. of urine was expelled. On release of the suprapubic pressure, air was heard to pass into the bladder. A roentgenogram showed a bladder filled with air. This would be interpreted by many to demonstrate dilator fibers. However, this has been relieved by giving methacholine chloride. What was the cause of the negative pressure in the bladder? We feel it is due only to negative intra-abdominal pressure with a weak detrusor muscle.

In 1936 one of us (R. Van D.), with Looney,[7] pointed out that, if during cystoscopy the lateral walls of the internal vesical orifice were observed when the patient strained to void, the walls were often seen to fall away, just as contraction of the trigone depresses the floor of the internal vesical orifice. We further noted that this continued after the trigone was paralyzed by section of the presacral nerve. Scher many years later described a like observation but believes it is produced by contraction of distinct lateral muscle bands. We question only the existence of separate muscle bands.

Young in his discussion of the 1937 paper[7] states: "Dr. Van Duzen's demonstration of the part played by the lateral detrusor muscles in holding open the vesical orifice is an interesting finding, and confirms our view that the act of micturition is from first to last an active process, being initiated by the trigone which holds the neck open with the assistance of the lateral muscles, which also take part in expelling the urine with the other detrusors."

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[3] Young, H. H.: Changes in the Trigone Due to Tuberculosis, Surg., Gynec. & Obst. **26**: 603-615 (June) 1918.

[4] Van Duzen, R. E.: Anatomy of the Prostate and Vesical Neck, South. M. J. **28**: 785-791 (Sept.) 1935.

[5] Young, H. H., and Wesson, M. B.: Anatomy and Surgery of the Trigone, Arch. Surg. **3**: 1-39 (July) 1921.

[6] Young, H. H., and Macht, D. I.: The Physiology of Micturition, J. Pharmacol. **12**: 329-354, 1923.

[7] Van Duzen, R. E., and Looney, W. W.: Correlation of Clinical and Anatomical Studies of the Vesical Neck, South. M. J. **30**: 436-438 (April) 1937.

INNERVATION

The reports by Learmonth [8] that stimulation of the presacral nerve would contract the internal sphincter and that section of the nerve would produce relaxation of the internal vesical orifice has produced most of the confusion about the act of urination. In 1932 one of us (R. Van D.) published our observations on the cystoscopic findings after presacral neurectomy.[9] We pointed out that the trigone was paralyzed and that there was no relaxation of the internal sphincter. We further pointed out that these patients noticed a delay in initiating the act of urination and a need to strain. We also reported this was often relieved by the use of epinephrine, a sympathetic stimulant. In discussion of this observation it was suggested that we had not completely cut all the presacral nerves. Subsequent observation by others has shown that the sympathetic nerve has no effect on contracting the internal vesical orifice. We have observed the effect of stimulation of both the hypogastric or presacral nerves and the sacral nerves in the Rhesus monkey. There is ttle if any change when the hypogastric nerve is stimlated. If the anterior branch of the second sacral nerve s stimulated as it emerges from the sacral foramen, a vave of contraction is seen to start at the neck of the ladder, proceeding upward toward the apex, causing he bladder to elongate and rise toward the anterior wall. This is followed by a wave that passes downward, shortening the bladder, and causing evacuation. This is similar o Muellner's fluoroscopic observations in man. Heimburger, Freeman, and Wilde [10] found that the anterior root of S 3 is the dominant nerve supply in man but that S 2 and S 4 are of less importance.

CONCLUSIONS

The bladder wall consists of two groups of muscle fibers: *the trigone muscle and the detrusor muscle.* The trigone, innervated by the sympathetic, or hypogastric, nerve, starts the act of urination by depressing the posterior lip of the internal vesical orifice. The detrusor muscle, innervated by the parasympathetic or sacral nerves produces lateral pull on the fibers about the vesicle neck, thereby further opening the outlet, and, by a contracting wave, expel the contents of the bladder.

The muscular structure of the prostate is a continuation of the fibers of the detrusor muscle of the bladder. There is no fibrous septum between bladder and prostate. The so-called capsule of the prostate is a compression layer resulting from hypertrophy of the prostatic glands. Fibrous septums indicate stress. The septums that have been said to divide the prostatic urethra into lobes are the result of repeated contractions of the trigone.

Sectioning of the hypogastric or sympathetic nerve causes paralysis of the trigone. It does not produce relaxation of the internal vesical orifice. Sectioning of the sacral or parasympathetic nerves produces relaxation of the internal vesical orifice and paralysis of the detrusor muscle of the bladder.

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[8] Rankin, F. W., and Learmonth, J. R.: Section of the Sympathetic Nerves of the Distal Part of the Colon and the Rectum in the Treatment of Hirschsprungs Disease and Certain Types of Constipation, Ann. Surg. 92: 710-790 (Oct.) 1930. Cloake, P. C.; Learmonth, J. R., and Barrington, F. J. F.: Discussion on Innervation of Bladder, Proc. Roy. Soc. Med. 25: 547 (Feb.) 1932.

[9] Van Duzen, R. E.: Effect of Resection of Presacral Nerve on Vesical Junction, South. M. J. 25: 964-967 (Sept.) 1932.

[10] Heimburger, R. F.; Freeman, L. W., and Wilde, N. J.: Sacral Nerve Innervation of Human Bladder, J. Neurosurg. 5: 154-164 (March) 1948.

RADICAL PROSTATECTOMY FOR CANCER

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and
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Carcinoma of the prostate gland ranks a close third among the leading causes of deaths due to cancer in males. Radical prostatectomy for the early localized tumor is the only known method of curing patients with this disease. While all prostatic cancers are curable by surgery for a certain length of time after they first develop, they produce no symptoms during this operable stage. As a result, only a pitifully small proportion of these cancers are discovered and referred to the surgeon early enough to be cured by radical prostatectomy. The great majority (approximately 95%) are inoperable when first discovered, and the patients continue downhill to die in one to five years, despite the palliation provided by orchiectomy, estrogens,[1] or cortisone. The results from bilateral adrenalectomy have been disappointing, and it may soon be abandoned as a treatment for carcinoma of the prostate.

Radioactive isotopes, such as gold 198 and phosphorus 32, which are now being investigated, appear to have a purely local action, at least in their present form, and thus may not be curative. For patients over 70 years of age, palliation for one to five years by hormone therapy may appear to be an acceptable duration of salvage (except to the patients and their families), but such a period of palliation for men of 55 years is definitely unsatisfactory. The purpose of this paper is to restate the plea for periodic rectal examinations of all men over 50 years of age, so that early cancers of the prostate will be detected in time, and to present some helpful refinements of the retropubic technique for radical prostatectomy.

The one person who can save men with cancer of the prostate gland is the physician who does annual physical examinations. He alone has the opportunity to detect the nodules or alterations in density that usually originate, fortunately, in a position where they can be easily pal-

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Read before the Section on Urology at the 102nd Annual Meeting of the American Medical Association, New York, June 4, 1953.

From the Squier Urological Clinic, Columbia University College of Physicians and Surgeons, and the Department of Urology, Memorial Hospital.

[1] Nesbit, R. M., and Baum, W. C.: Endocrine Control of Prostatic Carcinoma: Clinical and Statistical Survey of 1,818 Cases, J. A. M. A. 143: 1317 (Aug. 12) 1950.

pated on rectal examination. These suspicious areas can be biopsied with a needle, punch, or scalpel. All three methods have been recommended by experienced urologists.

It is encouraging to observe that a number of the largest automotive and industrial organizations have followed the example of the U. S. Army and have adopted a policy of routine physical examinations for their executives, realizing that many disorders, like prostate cancer, must be detected early, before symptoms develop. Once symptoms of urinary obstruction occur or the serum acid phosphatase level rises, it is usually too late for curative surgery. The recent report of Col. Joseph Kimbrough [2] shows how valuable routine examinations can be in the early discovery of prostatic carcinomas, while curative surgery can still be used.

DIAGNOSIS OF EARLY LESIONS

Palpation by rectum with the finger may reveal a nodule in one lobe of the prostate gland or abnormal firmness of one lobe as compared to the other. Either of these findings is sufficient to require a biopsy and an assay of the serum acid phosphatase. Also, if one side of the prostate gland is larger than the other, carcinoma should be suspected. Asymmetry can be caused by a prostatic abscess, but bogginess, fever, and pain are common accompaniments that are not usually present with cancer. The somewhat rare prostatic infarct may not be distinguishable from a cancer by palpation alone. Reliance on palpation alone leads to too-frequent diagnosis of carcinoma, since some cases with nodular benign hypertrophy, calculi, or tuberculosis can resemble cancer, as demonstrated by Goodwin.[3] Several supplementary diagnostic aids, such as roentgenograms, biopsies, phosphatase studies, and endoscopy, are available, however, to verify the clinical impression of carcinoma.

Palpation by rectum is important in determining whether the carcinoma is operable. Fixation, extension beyond the seminal vesicles, or induration of the periprostatic tissues suggest inoperability, but they are sometimes difficult to detect, and surgical exploration may be necessary to determine whether the growth is removable. Massive, fixed glands are definitely inoperable and amenable only to palliative treatment.

Acid phosphatase assays of the serum are of diagnostic value only when the serum level is elevated. Prostatic carcinomas that have not broken through the capsule cause no elevation of the serum acid phosphatase level, and a large proportion of carcinomas that have broken through the prostatic capsule and have metastasized still cause no elevation of the serum acid phosphatase level. When this level is elevated above 3 Gutman units per 100 cc. or 1 Bodansky unit, however, it does indicate that prostatic cancer has broken through the capsule and is no longer amenable to radical prostatectomy. Whether cures are likely to follow the shrinking of these cancers with estrogen treatment and the removal of them by radical prostatectomy has not yet been determined, although patients so treated may not subsequently suffer from obstruction of the bladder outlet.[4]

Cytological (Papanicolaou and Traut) studies of exfoliated cells in expressed prostatic secretions appear to be of little practical value in patients with small (operable) prostatic cancers, perhaps because the carcinomatous nodules lie in the periphery of the gland.[5]

BIOPSY OF THE EARLY LESION

Normal results from biopsy of a firm or nodular gland are always of doubtful value. Open perineal biopsy, even though a sizable wedge of prostatic tissue is removed, is by no means infallible. Frozen sections of tissue taken from the prostate during perineal exposure are often difficult to interpret accurately, especially if the pathologist is able to study only two or three such specimens a year. It has also been noted that the nodule that was palpated in rectal examination is sometimes difficult to locate when the gland is exposed. It also has been noted that occasionally the nodular area will yield a normal biopsy specimen whereas other areas of the prostate that felt quite normal to the palpating finger will yield carcinoma. If the frozen sections are inconclusive, Goodwin [6] and others close the perineal incision and wait for study of the permanent sections. Reoperation for radical perineal prostatectomy is not difficult if it is done within seven days after the surgical biopsy, but cutting into any cancer reduces the chances of curative surgery.

Needle biopsy or punch biopsy is much easier to do, although accuracy in hitting the affected area depends on the experience of the examiner.[7] This method has the advantage that the removed tissue can be studied on permanent sections rather than on frozen sections. Multiple specimens can be taken, and repeat biopsies are possible if doubt persists. The likelihood of producing implants of carcinoma cells in the tract of the needle biopsy has been discussed, but no cases of such implantation have been reported. Such a danger exists theoretically with every type of biopsy, but, at present, there does not appear to be any safer substitute, and spread of prostatic disease as the result of biopsies has never been demonstrated.

SURGICAL TECHNIQUES

The retropubic (or suprapubic) technique for radical prostatectomy has been gaining favor among many surgeons (Flocks,[8] Memmelaar,[9] Chute,[10] Stockwell,[11] and Millin [12]) for several reasons. 1. The region of the external sphincter is not disturbed, so that the incidence of incontinence is low following the procedure. 2. The extent of lymph node involvement can be estimated at the outset of the operation. 3. The fascia surrounding the seminal vesicles can be easily and completely dissected out, under vision, by the retropubic technique. This fascia is even more important as a site for early metastases than the seminal vesicles themselves, according to Jewett.[13] He found no carcinoma cells in the lumen of the vasa or vesicles in 78 specimens examined, while he frequently found cancer cells in the perivesicle fascia. Jewett reports a 50% five year survival among the patients who were operated on and in whom the rectal examination showed no evidence of extension of the tumor.

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[2] Kimbrough, J. E.: Detection of Early Prostatic Cancer: Discussion, J. Urol., 1954, to be published.

[3] Goodwin, W., and others: Methods of Diagnosis of Carcinoma of Prostate, Tr. West. Sect. Am. Urol. A., 1953, to be published.

[4] Scott, W. W., and Benjamin, J. A.: Comparative Follow-Up Study of Therapeutic Value of Bilateral Orchiectomy in Treatment of Carcinoma of Prostate Gland, J. Urol. 60: 604 (Oct.) 1948.

[5] Goodwin and others.[3] Herbut, P. A.: Urological Pathology, Philadelphia, Lea & Febiger, 1952, vol. 2.

[6] Goodwin, W. E.: Radical Prostatectomy After Previous Prostatic Surgery, J. A. M. A. 148: 799 (March 8) 1952.

[7] Goodwin and others.[3] Veenema, R. J.: Simplified Prostatic Perineal Biopsy Punch, J. Urol. 69:320 (Feb.) 1953.

[8] Flocks, R.: Treatment of Carcinoma of Prostate, Tr. S. E. Sect. Am. Urol. A. (April) 1952.

[9] Memmelaar, J.: Total Prostatevesiculectomy—Retropubic Approach, J. Urol. 62: 340 (Sept.) 1949.

[10] Chute, R.: Personal communication to the authors.

[11] Stockwell, A. L.: Personal communication to the authors.

[12] Millin, T.: Retropubic Urinary Surgery, Edinburgh, E. & S. Livingstone, 1947.

The perineal technique for radical prostatectomy is satisfactory in the hands of those who have had long training in its use. This approach has never become popular, however, despite 50 years of teaching by its advocates. It is perhaps understandable that surgeons who only occasionally perform a radical prostatectomy might prefer the more familiar suprapubic (or retropubic) route. For this reason, we attempt to describe some of the technical points that make the retropubic radical operation easier for us.

RADICAL RETROPUBIC PROSTATECTOMY

Obesity of the patient, to our surprise, has not interfered seriously with the retropubic approach. A deep, obese perineum can sometimes be more of a handicap to the operator than an obese abdomen. Proper position of the patient is important. An extra pad is placed over the kidney bridge, and the patient is placed so that his sacrum is directly over the kidney bridge. This bridge is then raised 6 in. (15.2 cm.), so that the pelvis is greatly hyperextended. In this hyperextended position, the floor of the pelvis and the cut end of the urethra are much more accessible. A slight degree of Trendelenburg is desirable so that the peritoneal contents will fall "upward" out of the way. A stiff rubber 24 F. catheter is inserted into the urethra, and the bladder is drained. The catheter is then sutured to the prepuce with silk sutures, so that it cannot slide out of the urethra while the palpating finger is seeking the plane of cleavage between the urethra and rectum. A midline suprapubic incision is made, which need not extend above the umbilicus in most cases. The Cherney incision is well adapted for this exposure but is not usually necessary. A self-retaining retractor is inserted to hold the rectus muscles widely apart, and an assistant is assigned the duty of keeping the bladder and peritoneum pushed upward, away from the field. Any sizable veins in the retropubic space are then ligated and divided. The puboprostatic ligaments on each side are palpated and cut close to the prostate. In this way, any branches of the dorsal vein of the penis, which might accompany these ligaments, may be grasped and tied. It is our practice to ligate these bleeding points rather than to fulgurate them. Our reason for cutting the puboprostatic ligaments close to the prostate is a part of a plan to leave the tissues in the vicinity of the external sphincter undisturbed. The finger then is passed under the apex of the prostate and under the membranous urethra. The stiff 24 F. catheter that was sutured into the urethra earlier can now be easily felt within the urethra.

Perforation of the rectal wall can occur at this stage of the operation, and to prevent this the surgeon may insert his left index finger into the rectum while he separates the urethra from the rectum (fig. 1). This will enable the surgeon with his dissecting right index finger to easily identify the rectal wall as distinguished from the wall of the urethra, which contains the catheter. As soon as this plane of cleavage is established, another catheter or a rubber tissue drain can be passed under the membranous urethra. The urethra is partly cut across at the apex of the prostate. When the inlying catheter is exposed, in our practice, two marking sutures of heavy (no. 0) chromic absorbable suture are inserted into the distal stump of the urethra at its ventral border. Any finer sutures might soften and break before the end of the operation. It is perfectly practical to place one such suture on either side of the midline to insure a good "bite" in the urethral wall before it is completely divided. As soon as the urethra is divided, the stump retracts distally and is thereafter more difficult to reach for the purpose of introducing new sutures. After these marking sutures are inserted and the urethra is transected, the apex of the prostate gland is lifted up with a vulsellum tenaculum. The rectal wall is then wiped away from the under surface of the prostate and seminal vesicles. With the upward pull on the prostate gland, the seminal vesicles and their surrounding fascia are placed under tension and can be felt running downward laterally, astride the rectum, at the upper limits of the prostate. With a sponge stick, the vesicles with their fascia can be separated from the surrounding tissues so that they stand out like cords under tension.

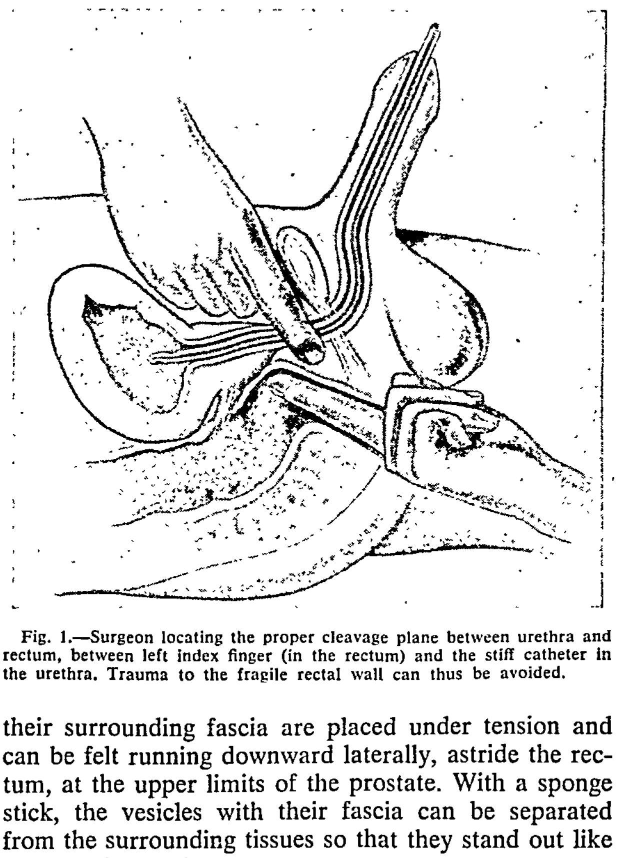

Fig. 1.—Surgeon locating the proper cleavage plane between urethra and rectum, between left index finger (in the rectum) and the stiff catheter in the urethra. Trauma to the fragile rectal wall can thus be avoided.

Brisk bleeding from the stump of the dorsal vein of the penis sometimes occurs when the puboprostatic ligaments and urethra are cut across at the apex of the prostate. This bleeding can be controlled easily with a new catheter that is passed into the penile urethra until the tip appears in the space of Retzius. This end is then grasped and pulled up behind the pubis to meet the other end of the same catheter at the tip of the penis. The two ends are clamped together and given to an assistant who then pulls directly upward (toward the ceiling) on the two ends of the catheter, thus pressing the bleeding ends of the dorsal vein of the penis against the underside of the pubis (fig. 2). If this traction is maintained for 10 or 15 minutes, the bleeding will stop.

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[13] Jewett, H.: Radical Perineal Prostatectomy for Cancer: An Analysis of 190 Cases, J. Urol. 61:277 (Feb.) 1949.

The bladder is then opened at its junction with the prostate gland, superiorly. This incision is carried halfway around the bladder neck on both sides. Caution must be taken not to extend the incision down toward the trigone too quickly, since the ureters are then lifted upward into an exposed position by traction on the prostate gland. A new catheter can be passed through the lumen of the prostatic urethra at this point and used as a tractor to hold the prostate up. Inspection of the interior of the bladder then reveals the ureteral orifices, which can be marked with ureteral catheters during the transection of the trigone and subsequent dissection under the bladder. The trigone is cut across about one-third of the way between the internal urethral orifice and the ureteral orifices. This incision across the trigone is deepened with impunity down to the seminal vesicles and vasa, which lie between the trigone and the rectum. Care should be taken to avoid undermining the trigone, since the ureters are quite superficial at this point. It is our practice to pass a clamp upward in the midline between the two vasa at this juncture, so that each vas may be grasped and dissected out for a distance of about 2 in. (5.1 cm.) downward along the seminal vesicles. The vasa are then cut, and the ends are ligated with chromic absorbable suture. The more pliable of the two seminal vesicles is next wiped clear of its attachments to the bladder, rectum, and ureter, along with its surrounding facia. Every effort is made not to perforate this facia or to expose the vesicle, since it is desirable to remove this fascia intact. This fascia is traced down alongside the rectum to the pelvic wall, where it is grasped with a right-angle clamp, well beyond the tip of the seminal vesicle. It is then divided, and the stump is ligated with a heavy chromic absorbable suture ligature to insure against breakage in the depths of the wound. If the tie should break because of too-fragile suture material, it would be difficult to recover the stump of the vessels that led upward toward the seminal vesicle. From this point on the specimen is attached only by the remaining seminal vesicle and its fascia, which are easily dissected out, clamped, and tied well beyond the tip of the vesicle.

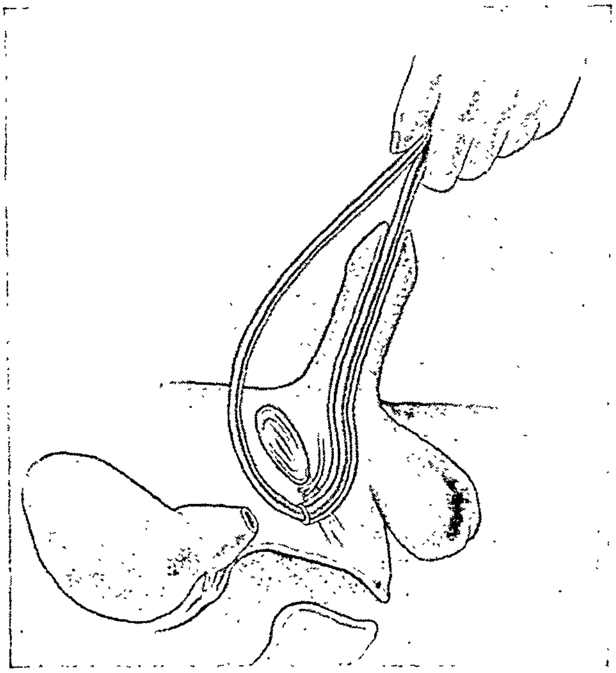

Fig. 2.—Traction upward on the urethral catheter compressing the cut end of the dorsal vein of the penis against the underside of the pubis, thus checking any bleeding from this area.

ANASTOMOSIS

Anastomosis of the stump of bladder and urethra can be carried out with three or four sutures of no. 00 chromic absorbable suture at the apex of the trigone. This maneuver is time consuming, and it is necessary that each suture, as it is placed, be separated from the others and identified by a marking clamp of distinctive type. The sutures must be tied down with great caution, so that they will not pull out of the stump of the membranous urethra. The remaining aperture at the bladder neck can then be closed from side to side.

It is our practice to insert a Foley catheter, size 22 F. with a 30 cc. bag, through the urethra at the time of this anastomosis and to bring a second Foley catheter, size 24 F., with a 30 cc. bag, out through a stab wound in the dome of the bladder. The suprapubic tube provides a safety valve and a means of introducing a new catheter, should the penile catheter become dislodged for any reason. We have found it advantageous to deflate the bag of the urethral Foley catheter within the first six hours and tape it in place. If this Foley bag is left inflated, it tends to encourage draining of urine through the operative area for a longer time than if it is deflated early. It has been our practice to leave the urethral catheter in place for 14 days.

A more rapid method of anastomosis is practiced by Flocks [8] and Chute,[10] who placed three mattress sutures through the bladder neck at the point of anastomosis, after the manner of Vest.[14] These sutures are passed out through the skin of the perineum and tied over a bit of rubber tubing or gauze. They act to hold the bladder neck directly down into the proper position and are quickly and easily placed. Some caution should be exercised in passing these needles down through the perineum, lest they run out into the skin of the thigh and become difficult to locate. It has been suggested by Goodwin that three mattress sutures be placed in the bladder neck, passed down the urethra, and affixed to the leg by a rubber-band traction device. Memmelaar sutures the bladder neck loosely around a Foley catheter and inflates the bag to 30 cc. He then pulls this bag down into the bladder neck, which holds it against the stump of the urethra. All of these various methods appear to be satisfactory. It is our practice to pass a no. 24 dilator through the urethra two weeks after the catheter has been removed and again thereafter, as necessary, if any snug point is encountered.

INCONTINENCE AFTER OPERATION

Half of our first 30 retropubic radical prostatectomies were done by resident urologists who had never done the operation before. Despite this inexperience, there were no patients with total incontinence after this procedure. One 65-year-old man has had moderate persistent stress incontinence. This record compares favorably with the incidence of incontinence after the perineal operation for radical prostatectomy. It is our hope that development of a satisfactory technique with this more familiar suprapubic route will stimulate wider application of the principle of radical prostatectomy for operable cancers of the prostate gland.

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[14] Vest, S. A.: Radical Perineal Prostatectomy: Modification of Closure, Surg., Gynec. & Obst. 70:935 (May) 1940.

SUMMARY AND CONCLUSIONS

Radical prostatectomy for early cancer is the only available means of curing patients with carcinoma of the prostate gland. Orchiectomy, estrogens, adrenalectomy, and cortisone treatment are merely palliatives. Radioactive isotopes are under early experimental investigation. To be operable, a cancer of the prostate must be discovered early, before it causes symptoms, increases the serum acid phosphatase level or becomes fixed. Physicians who do periodic physical examinations, including rectal examinations, can save patients with cancers of the prostate by early detection of the disease. Biopsy by needle, punch, or open operation can be used to verify suspicions aroused by rectal palpation. The suprapubic (or retropubic) technique for radical prostatovesiculectomy, which does not disturb the area of the external urinary sphincter and which affords an exposure of the routes of possible metastases, is described in detail.

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PHYSIOLOGICAL AND CLINICAL ASPECTS OF CONCEPTION

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Medical research in the past few decades has made great strides, and as a result many physiological and pathological processes have been clarified to a remarkable degree. Yet, some of the most basic biological phenomena have stubbornly resisted laboratory and clinical investigation, with real progress occurring only in slow and painstaking stages. In this class is the phenomenon of human reproduction. Although there have been numerous and varied recent attempts to elaborate on the mechanism of this complicated process, there is much that is still obscure. This report reviews certain of the known aspects of normal reproduction and attempts to correlate these with a number of conditions found in clinical infertility.

In the male, endocrine stimulation from the anterior pituitary is responsible for normal testicular function, including the production of male sex hormone or hormones and sperm. The pituitary follicle-stimulating fraction (F. S. H.), under hypothalamic influence, is believed to regulate sperm production, while the luteinizing fraction (L. H.) controls the production of androgens. The scrotal location of the testes is important for preserving spermatogenesis, but intra-abdominal temperatures do not significantly affect the endocrine function. Sperm develop, undergo mitotic division, and attain a certain amount of maturation in the seminiferous tubules. They are then stored in the epididymis, where maturation continues, and they become capable of motility. The process of development of mature sperm probably requires about three weeks. In this connection, it should be noted that acute toxic influences on sperm production are not immediately evident in the semen specimen. There is a lag of at least 10 days before depression in spermatogenesis is noted, with the maximum effect observed in about four to six weeks, and then a gradual return to normal. Delayed responses of this type are of clinical importance in correlating the influence of trauma and therapy.

The bulk of seminal fluid, the vehicle for transport of spermatozoa, is provided by the prostate and seminal vesicles, under the influence of androgenic stimulation. The seminal vesicles are the source of fructose, which is metabolized by the spermatozoa for energy for motility. (Motility is still possible aerobically in the absence of fructose.) In view of this close relationship between fructose secretion and androgenic stimulation of the seminal vesicles, a seminal fructose test has been proposed to evaluate male hormone activity.[1] In normal males, the seminal fructose level varies between 200 and 700 mg. per 100 cc., whereas in persons with androgenic deficiency the values are often below 200 mg. per 100 cc. The majority of patients seeking treatment for infertility, however, are not hypogonadal from an endocrine standpoint, and comparison of seminal fructose levels in fertile and subfertile men fails to show any marked difference. Most subfertile husbands erroneously assume that their relative infertility implies lowered "virility." It is clinically important to impress these patients with the fact that the two functions of the testes are separate and that (as is usually the case) their glandular output is normal. Emphasis on this distinction will in some instances help dispel the feeling of inadequacy suffered by these patients.

The transport of spermatozoa from male to female by means of the ejaculatory process is a relatively complex mechanism, involving cerebrocortical and spinal neurological components, and depends on adequate androgenic function. Such coital disturbances as premature ejaculation are generally insignificant as etiological factors in clinical infertility, as long as the semen is deposited intravaginally, unless they interfere appreciably with the frequency of intercourse.

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The estradiol trimethylacetate (Estrotate), progesterone, and chorionic gonadotropin (Choriogonin) were supplied by Dr. H. L. Daiell, Lakeside Laboratories, and the ethisterone (Pranone) by Dr. Edward Henderson, Schering Corporation.

[1] Landau, R. L., and Loughead, R.: Seminal Fructose Concentration as Index of Androgenic Activity in Man, J. Clin. Endocrinol. **11**: 1411, 1951.

Spermatozoa, when deposited in the vagina, are placed in a physiologically hostile environment. The normal vaginal pH is approximately 4.5, a degree of acidity too high to favor sperm viability. The latter do best in a slightly alkaline medium, such as the pH of 7.5 usually found in semen. It is rare to find semen specimens of low pH, even in instances of severe male infertility. This stability of the pH is generally undisturbed even by chronic infections of the accessory sex glands. Infections of the vagina usually produce elevation of the pH and accordingly do not contribute to diminished fertility on the basis of acidity.

The hostile environment encountered by spermatozoa in the normal vagina is offset to a large extent by the buffering capacity of the semen. Effective buffering ordinarily permits survival of adequate numbers of sperm sufficient long to allow penetration of the cervix. In spite of buffering, however, spermatozoa soon lose their viability in the vagina; therefore, prompt spermigration is essential for reproduction.

It has long been believed—although some current investigators dispute this—that the vaginal pH is maintained at an acid level by the action of the normal bacterial flora, chiefly Doederlein bacilli. These organisms act on glycogen, breaking it down to lactic acid and carbon dioxide. The resultant acid environment is favorable to the growth of Doederlein bacilli and unfavorable to many pathogenic organisms. Hence a paradoxical condition exists in the vagina, where the pH is optimal to maintain a normal healthy flora yet too low to favor survival of the cells essential for reproduction. Cervical secretions, on the other hand, generally exhibit a pH of approximately 7.5, and are accordingly more favorable to spermatozoa. It is possible that this difference in the pH is one of the factors that favors migration of the sperm from the vagina into the cervix, although it does not explain further directional progress in the upper genital tract. Bickers believes such progress depends to a considerable extent upon contractions of the uterine musculature, and attributes certain cases of infertility to myometrial dyskinesia at the fertile time of the cycle.[2]

The cyclic variations that occur in cervical secretions are quite marked, and many of the changes have been elaborately detailed by Pommerenke and his associates.[3] Near ovulation, the secretions are thin, abundant, and rich in carbohydrate. During this phase cervical mucus exhibits pronounced fern-like crystallization, a phenomenon that may readily be observed by spreading a thin film of mucus on a slide and allowing it to dry. At this stage of the cycle, cervical secretions are most receptive to spermatozoa. During other phases of the cycle, the physical characteristics of cervical mucus are relatively unfavorable for sperm penetration, a situation that implies the correlation of fortuitous circumstances at the specific time when conception is possible.

Many investigators believe that the factor of abnormal cervical secretions is the commonest single cause of infertility. Specific treatment with antibiotics is indicated in certain types of cervicitis, but procedures such as extensive cauterization can cause irreparable harm by destroying the cervical glands. (This type of conservatism should also apply to certain other vague and more extensive surgical procedures used in the treatment of infertility, since there are still too many "unknowns" in the cause of barren marriages to warrant resort to radical therapy by a process of elimination.) Estrogenic therapy has been employed to alter the secretions favorably for spermigration, but, since large doses may inhibit ovulation, the amount given should be carefully regulated. A daily oral dose of 0.1 mg. of diethylstilbestrol or the equivalent in other estrogens is frequently used to increase cervical secretion.

It is interesting to note that when sperm motility is observed in seminal fluid, there is very little evidence of any straight directional course. Vigorous, scattered motility occurs in many directions, and it is my opinion that attempts to define types of directional motility in the semen as normal or abnormal are futile, as long as such motion is highly active. The quality of motility in normal cervical secretions, however, is quite different, for in this medium spermatozoa generally show a definite, forward, directional progress. Whether this is due entirely to the physical characteristics of cervical secretions, or whether it is due to a chemotaxic effect, is highly conjectural. Since sperm microscopically observed in cervical mucus are removed from the genital tract, one might assume that any effects are directly attributable only to the surrounding medium.

Survival of spermatozoa in the female genital tract has been the subject of considerable speculation. After intercourse, during the ovulatory phase of the cycle, viable spermatozoa can generally be found in the cervical canal for 48 hours and occasionally considerably longer. Viability of sperm in the upper portions of the genital tract has been estimated to be as long as five days, but this does not necessarily imply a fertilizing capacity for that length of time. In lower animals it has been shown that the fertilizing capacity of spermatozoa can be destroyed without concomitant loss of motility.[3a] The life of the ovum, from the standpoint of fertilizability, has been estimated to be no longer than 24 hours, based on observations in other species.

Experimental evidence indicates that the time required for progress of sperm from the cervix to the fimbriated ends of the fallopian tube is probably only a few hours. Brown, for example, during laparotomies, found that sperm were obtainable in the tubes three hours after they were placed in the vaginal canal.[4] This prompt sperm migration would tend to indicate that intercourse timed very close to ovulation would be most advantageous from the standpoint of insuring conception. Delay in spermigration or ovum transport may be due to abnormal tubal peristalsis, a condition that can be demonstrated by kymographic carbon dioxide insufflation or fluoroscopic study.

The union of sperm and egg is believed to take place in the outer portion of the fallopian tube, near the junction of the distal and middle third. Seymour and Benmosche, in electron microscope studies of spermatozoa, have suggested that the heads of these cells have a small cup-like area, which is possible significant as a point of contact for sperm and egg.[5] We have also noted this same consistent concavity in the sperm head.[6]

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[2] Bickers, W.: Patterns of Uterine Motility in Relation to Spermigration, Fertil. & Steril. 2: 342, 1951.

[3] Pommerenke, W. T., and Viergiver, E.: Relationship Between Cervical Mucus and Basal Temperature Cycles, Am. J. Obst. & Gynec. 54: 676, 1947.

[3a] Tyler, A.: Fertilization and Immunity, Physiol. Rev. 28: 180, 1948.

[4] Brown, R. L.: Rate of Transport of Spermia in Human Uterus and Tubes, Am. J. Obst. & Gynec. 47: 407, 1944.

The presence of the egg at the site of ovulation is the culmination of a sequence of events that includes preliminary maturation of a graafian follicle in the ovary under the influence of anterior pituitary gonadotropic stimulation. The three hormones that are now believed to comprise gonadotropic secretion (follicle-stimulating, luteinizing, and luteotropic) act in coordination to effect maturation of the follicle and its rupture and corpus luteum formation and function. Failure of ovulation is one of the common causes of infertility, but its incidence is undoubtedly not as high as was formerly believed. Attempts to induce ovulation with gonadotropins are generally clinically disappointing, but occasionally the use of estrogens during the major portion of one cycle may result in ovulation in the succeeding cycle.

Migration of the egg into the fimbriated end of the fallopian tube, following its extrusion into the peritoneal cavity, is a process that may have chemical aspects in addition to such obvious physical factors as peritoneal currents. Whether or not there is active participation on the part of the fallopian tube in the process is another matter for speculation. In rabbits, a portion of the tube apparently surrounds the ovary at ovulation to facilitate transport.[7] In humans, Decker has reported culdoscopic observations indicating motility and change of size of the ovarian ligaments near ovulation, factors that he considers favorable to ovum receptivity by the tube.[8]

The corpus luteum, formed at the site of ovulation, functions for a little over a week in the nonpregnant cycle and then deteriorates. Should pregnancy intervene, this endocrine gland undergoes further development and is an important source of hormones during pregnancy. It is not indispensable to pregnancy, for gestation has continued even when this gland has been removed. Much of its function can be carried on by the placenta after this structure has become adequately developed.

Following fertilization, the egg is carried by peristaltic action into the body of the uterus, where nidation takes place, approximately six days after fertilization. At this time, the fertilized egg elaborates enzymes that help erode the surface of the endometrium for implantation. The products of erosion probably also provide nutrient for the developing egg. Decidual changes in the endometrium and subsequent placental formation result indirectly from continued endocrine stimulation in amounts far above those found in the nonpregnant state.

SPERMATOZOA REQUIREMENTS FOR CONCEPTION

There has been much speculation concerning certain mechanisms involved in conception. For example, in view of the need for only one sperm for fertilization, one cannot but wonder at the millions of spermatozoa present in the average ejaculate. Several years ago, it was suggested that one reason for this abundance was the necessity for obtaining adequate hyaluronidase at the site of fertilization. This enzyme, carried by the sperm head, was thought to be essential for fertilization in denuding the egg of its follicular cells. More recently it has been shown experimentally that removal of these cells is not essential for fertilization and that spermatozoa can reach the ovum through intact follicular cells. Clinically, despite initial enthusiasm, hyaluronidase has not been found effective as a therapeutic agent in sterility.[9]

Chang,[7] in studies of rabbit fertilization, has given some indication of another possible reason for the large numbers of spermatozoa in the ejaculate. On the basis of microscopic examination of serial sections of tubes, after insemination, he estimates that only 1 out of 100,000 sperm reaches the site of fertilization. This would tend to indicate that there is less of a superabundance of sperm than we have believed.

There have been a number of conflicting reports in the literature concerning the lower levels of seminal values at which pregnancy can occur. One often reads reports by investigators of conceptions occurring when the husband's sperm count is as low as 500,000 per cubic centimeter or even less. It is my opinion that conceptions at such figures, if they occur at all, are extremely rare. In table 1, 164 pregnancies, which occurred during the course of therapy of 570 subfertile couples, are analyzed from the standpoint of semen levels at which conception occurred. The maximal sperm count noted during investigation is the factor that determined in which category the husband should be placed. The 73 husbands who had consistent counts no better than 20 million per cubic centimeter were responsible for only two conceptions (2.7%). The group in which the sperm count varied between 20 and 40 million achieved a conception percentage of 15.5%, a significantly lower figure than the 26.9% level in the 40 to 60 million group. When the count was 60 to 100 million, the pregnancy rate was decidedly better (36.0%), but not much different from the group with counts of 100 million or higher (38.8%). This would tend to give some support to the figure of 60 million per cubic centimeter as the lower limit of normal sperm concentration.

Table 1.—*Percentage of Conceptions Known to Have Occurred at Various Sperm Count Levels**

Level of Sperm Count, Millions per Cubic Centimeter	No. of Patients Treated	No. of Pregnancies	Percentage of Conceptions
100+	201	78	38.8
60-100	136	49	36.0
40- 60	89	24	26.9
20- 40	71	11	15.5
1- 20	73	2	2.7

* The sperm counts shown were the best observed while the couple was under investigation.

It may be argued that the low incidence of conceptions at the lower sperm count levels in this series might be attributed to subfertility in the wife. However, this is negated by the fact that a number of the wives in this

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5. Seymour, F. I., and Benmosche, M.: Magnification of Spermatozoa by Means of Electron Microscope: Preliminary Report, J. A. M. A. **116**: 2489 (May 31) 1941.

6. Tyler, A., and Tyler, E. T.: Electron Microscope Studies of Spermatozoa, A. M. A. Scientific Exhibit, 1946.

7. Chang, M. C.: Fertility and Sterility as Revealed in Study of Fertilization and Development of Rabbit Eggs, Fertil. & Steril. **2**: 206, 1951.

8. Decker, A.: Culdoscopic Observations on Tubo-Ovarian Mechanism of Ovum Reception, Fertil. & Steril. **2**: 253, 1951.

9. Tyler, E. T.: Fallacies in Infertility, Urol. & Cutan. Rev. **55**: 344, 1951.

group promptly became pregnant when donor insemination was employed. A series of semen analyses was obtained on one patient who received various types of therapy for almost two years and whose counts ranged between 2 and 28 million. When donor insemination was resorted to, pregnancy occurred after a single insemination. If diminished fertility of the wife had been a factor, it is highly improbable conception would have occurred so readily. It is possible that reports of conceptions occurring in the presence of extremely low sperm counts do not take into consideration the marked fluctuations that can frequently occur in semen values in the same person. The specimen examined may not necessarily bear a close relationship to the semen level at the specific time of conception.

Efforts to increase spermatogenesis in the infertile male are generally not very successful.[10] In the last few years many methods of treatment have been hopefully advanced, but the extremely oligospermic husband remains a therapeutic problem. Certain types of empiric medication, such as the routine use of thyroid, are probably valueless.[11] The most significant recently advanced therapy has been the use of testosterone "rebound." This treatment involves preliminary suppression of spermatogenesis by testosterone, to the point of complete azoospermia. After an interval of one-half year to a year and a half, rebound to normal sperm production should occur in properly selected cases.[12] However, of 21 men I have treated thus far, not a single one has shown the anticipated rebound in repeated observations for as long as two years.

TIMING OF CONCEPTION

In view of the clinical importance of determining the time of ovulation, as well as its occurrence, the use of basal body temperature charts has become relatively widespread in infertility practice. Many patients have been taught to utilize these charts as absolute guides for timing intercourse and intervening periods of continence. It has been commonly accepted that ovulation occurs near the thermal shift in the chart and that other phases of the cycle are relatively or completely infertile. On a theoretical basis, the use of these charts would seem quite valuable. From the practical standpoint, however, there is considerable limitation to their usefulness. One obvious drawback is the fact that many charts kept by infertility patients show a grossly irregular pattern that defies interpretation. In these it is often impossible to pick the definite time of thermal shift, even when a shift occurs. A dip in temperature supposedly occurs prior to the rise, which is presumably characteristic of ovulation, but only an occasional chart shows this. Many investigators feel that the temperature shift bears no consistent relationship to ovulation, in that the latter phenomenon can occur several days before the temperature changes or even after it.

My own impressions concerning the time of ovulation are derived by inference from the charts of patients in whom donor insemination was employed only once in the cycle in which conception occurred. The husbands in this series were completely infertile because of azoospermia, and therefore it would be reasonable to assume that pregnancy occurred as a result of the single insemination. (The scope of this report does not permit a discussion of the various moral and legal aspects of donor insemination, but these statistics are presented for what data they may add to the problem of determining the time of conception.) In a series of 29 conceptions one occurred when insemination was performed as long as five days before the temperature rise, three resulted from insemination four days before, and one occurred four days after the shift. Most conceptions occurred in the interval between two days before and two days after the rise, but this does not necessarily imply as great a difference as it would seem, in view of the proportionately larger number of inseminations done on these days. One patient—apparently highly fertile—became pregnant three times, with the use of a single insemination on each occasion. The first two inseminations were done three days before the temperature shift, while the third was performed four days before the temperature rise.

It may, of course, be questioned whether ovulation or fertilization necessarily occurred near the time of insemination in these cases. If a limited period of fertilizing capacity of sperm or fertilizability of egg is assumed, the time relationship probably exists. It is possible, however, that both these cells may exhibit marked variability as far as fertilization is concerned. It is also possible that intercourse can stimulate ovulation, a situation that occurs in some lower animals. In the instances where artificial insemination was used, coital stimulation would not be a consideration, unless intercourse with the husband occurred at approximately the same time. Another factor is the possibility that certain constituents of the semen may exert a physiological action in the female. Current laboratory studies on the protein constituents of semen have indicated certain effects on the female genital tract, but whether these are clinically significant is difficult to ascertain at present.[13]

THERAPEUTIC EFFECTS OF ARTIFICIAL INSEMINATION

There has been a great deal of controversy concerning the value of artificial insemination with the husband's semen. This procedure is often employed when oligospermia is present, as well as in cases where there is no seminal inadequacy. Since the two groups present different situations, they should be considered separately.

A total of 1,086 instances of artificial inseminations were reviewed. In the group with normal semen, conceptions occurred in 42 cycles in which artificial insemination happened to be employed and in 38 cycles during which no inseminations were done. While individual factors varied, the wives were a basically similar "functional" group and hence the statistical comparison, though limited, is probably significant.

In many of these instances insemination was employed as a possible method of circumventing cervical hostility, but apparently instilling the semen low in the cervical canal does not correct this factor. Certainly the results fail to show any therapeutic effectiveness attributable to artificial insemination when the semen is normal.

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[10] Tyler, E. T., and Payne, S.: Spermatogenesis and Therapy of Infertility, J. A. M. A. 134:770 (June 28) 1947. Howard, R. P.; Sniffen, R. C.; Simmons, F. A., and Albright, F.: Testicular Deficiency: Clinical and Pathologic Study, J. Clin. Endocrinol. 10:121, 1950.

[11] Tyler, E. T.: The Thyroid Myth in Infertility, Fertil. & Steril. 4:218, 1953.

[12] Heller, C. G., and others: Improvement in Spermatogenesis Following Depression of Human Testis with Testosterone, Fertil. & Steril. 1:415, 1950.

[13] Singher, H.: Personal communication to the author.

In the group of oligospermic men, the data suggest that pregnancy is more readily possible with the use of artificial insemination (table 2). Of 33 conceptions that were reviewed in this group, 21 occurred in cycles during which insemination was employed and 12 in cycles during which insemination was not done. The apparent increased effectiveness in the oligospermic group may lie in the fact that insemination using the cervical cap or speculum technique prevents a certain amount of inactivation of spermatozoa by the vaginal secretions, and this may be significant when reduced numbers are present.

In this group insemination was often done alternately with the cervical cap and without it in the same cycle, and no data are available concerning the relative merits of these procedures. When the cap is utilized, care must be exercised that the semen does not leak out during insertion; otherwise the device may inadvertently serve as a barrier to contact of semen with the cervix. Properly used, the cervical cap helps to provide more prolonged contact of semen with the external cervical os.

"CONCEPTION-LESS FERTILIZATION"

As outlined previously, implantation of the fertilized egg in the endometrium depends on adequate transport of the fertilized egg through the tube and into the endometrium, together with the initiation of trophoblast enzymatic activity at a time when the endometrium has been adequately prepared. In some obscure instances of infertility, where no obvious pathological conditions are found, it is possible that fertilization may occur but the fertilized egg is unable to implant itself in the endometrium and menstruation occurs on schedule. The term "conception-less fertilization" may be loosely assigned to this problem, because conception—a term that implies lodging of the fertilized egg in the uterus—has not taken place. These patients may be found to have poor progestational endometriums on repeated biopsy, and abnormal basal temperature charts in the luteal phase, showing short or gradual elevations. Since the inadequately developed endometrium may be a result of poor corpus luteum function, large doses of progesterone should be given, together with estrogens (1.5 mg. of Estrotate [estradiol-3-trimethylacetate] and 15 mg. of progesterone intramuscularly daily would be an average dose). Substitution therapy of this type may inhibit a certain amount of gonadotropic stimulation, and accordingly chorionic gonadotropin is also employed. If oral medication is used, the doses must be very large; 75 mg. of ethisterone (Pranone) together with 4 mg. of estradiol trimethylacetate should be considered a minimal daily dose. Chorionic gonadotropin (1,000 I. U. on alternate days) can be given only by injection. Occasionally this type of therapy will delay the onset of menses, but this delay can generally be differentiated from pregnancy by an atypical fluctuating basal temperature curve that fails to show the persistent elevation noted during pregnancy.

Poorly developed endometriums at the time of nidation in certain instances of habitual abortion may also be a factor. Adequate preconceptional investigation, including endometrial biopsies and determination of pregnandiol values, may direct attention toward this type of deficiency. Although results of any type of therapy in habitual abortion invite skepticism on a purely statistical basis, treatment of these patients, initiated prior to conception, and particularly in the second half of the cycle in which pregnancy is attempted, merits consideration. Hughes, in his preconceptional treatment clinic, has investigated the endometrial phase of the infertility problem in great detail and his therapeutic accomplishments are very encouraging.[14]

STERILITY OF UNKNOWN CAUSE

Even in a specialized infertility practice, a large majority of the patients studied fail to become pregnant despite all therapeutic attempts. This group not only emphasizes present diagnostic limitations but also points out the need for systematic investigation of the infertility problem by men willing to devote adequate time to it. Perhaps some of the newer methods of observation may prove helpful by providing information concerning such factors as migration of the egg from ovary to tube, or minor structural changes in the genital tract that can interfere with conception. Certain types of infertility, notably "one-child sterility," long thought to be attributable to cervical trauma or tubal pathology, may prove to have an immunological basis. This possibility is not too remote when one considers that rabbits, for example, have been experimentally immunized to the antigenic components of human or rabbit sperm. The actual process of fertilization may prove to be basically an immunologic phenomenon, as advanced by A. Tyler.[3a] The elaboration of these mechanisms in experimental animals will undoubtedly shed more light on some of the problems encountered clinically.

TABLE 2.—*Relative Incidences of Conception When Artificial Insemination Was Utilized and Not Utilized in Women with Normally Fertile Husbands and Women with Oligospermic Husbands*

	Normal Semen	Oligospermic Semen
No. of conceptions when insemination was employed................	42 (52.5%)	21 (63.6%)
No. of conceptions when insemination was not employed...........	38 (47.5%)	12 (36.4%)

There is much that is still obscure in the mechanism of conception and in many basic problems of sterility. In a specialized sterility practice today, it is unlikely that more than one out of every three couples with a true sterility problem can be helped. This is probably an accurate figure, if those patients are excluded who prematurely seek medical advice and receive therapy long before there is any need for it. Uniform criteria for effectiveness and pooling of results would be highly desirable in this field of medical practice in order to obtain a true and adequate appraisal of clinical results.

SUMMARY

The physiology of conception is reviewed, with reference to certain specific aspects of the problem of sterility. Studies on approximately 4,000 semen specimens indicate that pregnancy is highly unlikely when the sperm count remains consistently below 20 million. Despite encouraging recent reports of treatment of male infertility, there is no real solution for this problem at present.

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[14] Hughes, F.: A. M. A. Scientific Exhibit, 1952.

The day of basal temperature shift may not necessarily coincide with ovulation, and therefore should not be used too arbitrarily as a guide to timing coitus in treatment of infertility. Single donor inseminations have resulted in pregnancies as long as five days before the temperature rise in women with azoospermic husbands.

A cause of sterility that may be overlooked in certain apparently normal women can be somewhat loosely termed "conceptionless fertilization." This involves failure of implantation after the egg has been fertilized. In such cases treatment should be intensive during the second half of the cycle, with therapy directed toward improving endometrial quality. In certain types of habitual abortion, similar therapy should be given prior to conception.

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ACADEMIC FREEDOM IN MILITARY MEDICAL RESEARCH

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From the times of origin of universities down to the present, academic freedom has been a topic of concern to instructional staffs, administrators, and the public. To discuss its various meanings would lead to a consideration of semantics far beyond the compass of this paper. For our purposes it is enough to say that academic freedom implies in the minds of most moderns the right and duty of teachers to present the truth as it is currently conceived. Among military personnel freedom of teaching can be exercised in the many courses of instruction given in the services and especially in the influence of the more senior investigators on their younger colleagues and pupils. We consume research talent, and effort should be made to replenish and enlarge the supply of investigators. To do so requires freedom for both seniors and juniors.

SECURITY AND PUBLICATION

Freedom, however, has a broader connotation than the adjective "academic" permits. Freedom in science should grant the power to choose, to think, to try and fail, and the privilege of intellectual liberty. All investigators owe to science the obligation to disseminate results. Here the military investigator is sometimes at a disadvantage as compared with his civilian colleagues because he is faced by the bugbear of classification. He is not free to publish material that higher authority declares secret, confidential, or restricted. Nor is he always clear as to why the classification is imposed. This handicap is recognized, however, by many who have thought the matter through. In one of the Steelman reports there is a discourse on security versus scientific freedom. "A security policy should be developed in relation to science which will permit the maximum opportunity for creative endeavor and freedom in dissemination of results consistent with national security. This requires continuing review as the situation changes." Henry D. Smyth of the Atomic Energy Commission states that a large part of the work of AEC's division of research is unclassified and says that "the decision to handle this work without secrecy comes from the conviction that secrecy retards progress." Admitting that classification may be necessary for some work at some time, we believe that continuing review and revision are of paramount importance.

The very nature of military research cannot permit the same freedom of choice in investigative projects that is allowed the civilian except as may apply perhaps in some of the commercial and industrial establishments. Even in the latter, however, freedom is becoming greater as industrialists recognize the fact that, as stated by Brig. Gen. David Sarnoff, "progress is our most important product," and progress is made only by research and development. By and large, the civilian takes up projects of interest to him, some problem initiated by his innate intellectual curiosity. This is not denied the military investigator, but in many instances cannot be granted to him.

VALUE TO HEALTH

Medical departments of the services are charged with promotion of the health, safety, and efficiency of the personnel. The research effort has the same objectives and similarly is often applicable to both military and civilian medicine. President Truman in his address to the 1952 meeting of the Association of Military Surgeons said, "the advances we have made in improving the health of the American people are, in great measure, the result of steady progress in medical research." Admiral Pugh, at the same meetings, evidently reflecting the views of all three Surgeons General, said, "medicine . . . will remain alive and progressive commensurate with the degree in which it engages in research." Whether research is conducted in military laboratories and hospitals or by contract in civilian institutions, freedom in research is essential. Administration is necessary but should be tempered to the requirements and freedom of the research workers. "Housekeeping," provision of supplies, personnel management, and the like properly belong in this field. It would be well if the military administrator could have a background of research, but he, in any event, must have sympathy with it. He must cooperate with the research staff to the extent of granting all freedom possible.

Medical Research Adviser to the Surgeon General, U. S. Navy (Dr. Karsner).

Read before the Section on Military Medicine at the 102nd Annual Meeting of the American Medical Association, New York, June 4, 1953.

The opinions or assertions contained herein are the private ones of the authors and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large.

RECRUITMENT

The support of military medical research is by public funds, and its justification lies in convincing those who administer appropriations that it is to the ultimate advantage of the combatant forces and the nation. The research problem may be set up because of requirements or needs of some agency of the armed services or the investigator may propose a project based on his own knowledge of these needs and requirements. Big or little as the problem may be, the answer can best be given by the highest grade research workers who can be obtained and retained. To obtain and to retain such persons are two closely integrated facets of the same situation and apply to the military services even more stringently than to other organizations. Various factors play a part; income, security of tenure, retirement, financial resources for material, equipment, congenial atmosphere, and other factors enter the picture, but to the highly qualified investigator the greatest of all is freedom.

Anyone entering on a career in military medical research must have the good sense to realize that the primary mission is military. He should familiarize himself with military operations in order to understand why his projects are of importance, and he should be free to go into the field in order to gain intimate acquaintance with operational activities.

How then can freedom be offered as an inducement to enter and stay in military research? Our answer is simple enough. The best man for the mission is the best man obtainable. And the best man cannot be confined to answering questions by using only methods and procedures already in effect. The best man appreciates the need for practical answers, but he cannot make his best contributions if that is all he is allowed to do. He cannot be the best man if he does not see beyond the immediate problem to others that underlie it and that may provide the basis for an answer. This leads him into unexplored fields; he delves into basic research. It might well be said that basic research is the function of the universities and research institutes, but here we deal with the practical matter of obtaining and retaining the best investigators, and the best have a certain devotion to enlarging the field of human knowledge. The Steelman report divides basic research into (*a*) fundamental research and (*b*) background research. Background research uses known principles to reach clearly defined objectives. More simply stated, it directly supports applied research. Not infrequently an investigator finds that there are gaps in information necessary to solution of his problem and he must fill the gaps himself. Fundamental research extends knowledge of general principles governing natural phenomena and that alone. If that knowledge proves to be applicable, it is a by-product rather than an aim. Fundamental research cannot be "directed," cannot be judged by results, cannot go by a timetable, and cannot be productive without great freedom.

ADMINISTRATIVE APPROACH

There are different ways in which military medical research is practiced, and in each the matter of freedom is involved. One method is by direction from a central office. Scientists and administrators in such an establishment have a broad over-all view of military requirements and are familiar with the supporting budgets. A potential disadvantage is that the investigator may be restricted in his free choice of problems and in his opportunity to conduct background and fundamental research.

In contrast is the freedom implied by initiation of projects in the periphery, that is, in the hands of the investigators in laboratories and other installations of the medical departments. The advantage lies in the fact that, generally speaking, the best research is that which originates in the mind of the scientist. This may well be the most scientific mode of approach, but when all aspects of military research are considered it cannot always be practiced. The military establishments must have a program of research, which naturally applies to the individual establishments, and the investigators are somewhat limited in freedom because of the necessity for fitting the projects into the program.

Another point is the relative merit on the one hand of task forces or expeditions and on the other hand of the permanent installation in the field. The task force may be handicapped as to freedom by limitations of scope and time, but materials and ideas brought back often provide for relative freedom and certain valuable results. The fixed installation permits more freedom than the task force. It fits into the over-all objective yet can take advantage of conditions in and peculiarities of the local environment and can seize opportunities that may not be readily apparent to a central group.

The services also avail themselves of contracts with civilian institutions. The disadvantages lie in less direct control by the military and less contact with operational requirements and the difficulties of dealing with classified topics. There are, however, definite advantages in that basic research can be encouraged, that highly specialized information can be provided, and that expensive equipment may be more readily available than is true in the services. Contractual research can be complementary to military research, and there can be a free interchange of ideas and results.

CAREER PATTERNS

Even though it may be necessary for the operational requirements of the services, the transfer of military personnel from one station to another often limits freedom in research and prevents actual continuation of certain studies. This situation could be corrected in large part by the establishment on a reasonably firm basis of career patterns in research for the armed forces.

Conscientious aid, advice, guidance, and coordination are provided by such agencies as the Research and Development Board of the Department of Defense, the National Research Council, and comparable bodies in the three services. Thus, there is assurance that military medical research will be purposeful and productive, that extravagance will not be tolerated, and that needless duplication will be avoided. Only by research can we keep abreast of friendly nations and progress further than our potential enemies. And only by freedom commensurate with national policy can this research be most productive.

Bureau of Medicine and Surgery, Department of the Navy (Dr. Karsner).

PRESENT STATUS OF OPHTHALMIC JOURNALISM IN AMERICA

CHAIRMAN'S ADDRESS

Francis Heed Adler, M.D., Philadelphia

Ophthalmic journalism in this country has now attained world leadership. It is time to evaluate how well it is meeting its present obligations and to consider in what ways it should develop. As one looks at the past of ophthalmic journalism, it seems that it has had no very proper upbringing, but like Topsy, "just grew."

The first American journal devoted to ophthalmology appeared in 1862, edited by Julius Homberger. This journal was called the *American Journal of Ophthalmology*, but was not even distantly related to our present American journal, and, according to good authority,[1] it was "short-lived" and "ill-famed." It lasted only two years. The oldest publication in existence today is the *Transactions of the American Ophthalmological Society*, which first appeared in 1864. Fifty volumes have been published to date, containing some of the best work done in this country. The *Archives of Ophthalmology* followed in 1869, with the title *Archives of Ophthalmology and Otology*, under the editorship of Herman Knapp, who not only was a distinguished ophthalmologist, the founder of the New York Ophthalmic and Oral Institute, and the first chairman of the Section on Ophthalmology but also had the especial honor bestowed on him by Providence of being the father of Dr. Arnold Knapp.

Another *American Journal of Ophthalmology* appeared in 1884. In 1917 it absorbed three of the then existing journals—the *Ophthalmic Record*, the *Annals of Ophthalmology*, and *Ophthalmology*—and became an entirely new journal under the editorship of Edward Jackson. Under the aegis of outstanding editors, this has grown to be our present great *American Journal of Ophthalmology*, with Dr. Derrick Vail as its able and dynamic editor. As stated, the *Archives of Ophthalmology* was first published as the *Archives of Ophthalmology and Otology*, but in 1879 the two sections split and the *Archives of Ophthalmology* continued alone. This journal was the direct descendant of the German journal *Archiv fur Ophthalmologie*. Following his father, Dr. Arnold Knapp continued to publish the *Archives of Ophthalmology* privately until 1929, when the ownership was transferred to the American Medical Association, and this journal became one of the A. M. A.'s special journals.

Table 1 shows all the journals that have been started since 1862 in chronological order. Those still being published today are marked with an asterisk. Of the 27 periodicals, only 13 are still in existence. Table 2 shows the number of journals started in each decade, from 1860 to date, and the number still in existence. There is no evidence that journals were begun in response either to the growth of scientific organizations or to the number of men practicing ophthalmology. The greatest increase in number of journals came around 1900, and since then the number of new journals has gradually fallen off. It seems evident that the point has been reached where supply and demand are about balanced.

It is difficult to determine whether there has been an increase in reading interest in periodicals. The chart shows the increase in the number of paid subscribers of the *Archives of Ophthalmology* since it was taken over by the American Medical Association. Dr. Vail tells me that these figures are similar to those of the *American Journal of Ophthalmology*. These cannot be construed as proving an increase in reader interest, since this could only be judged by comparing the circulation figures with those showing the increase in the number of ophthalmologists in this country during the same period. When comparing the circulation figures with the number of candidates who applied to take the American Board of Ophthalmology examination in the same period of time, one finds the increase in subscribers about matches the increase in number of men applying to take the board examinations. This presumably means that the increase in subscribers is due partly to the increase in the number of potential readers and not entirely to reader interest.

FUNCTIONS OF AN OPHTHALMIC JOURNAL

What are the functions of an ophthalmic journal, and how well do the 13 periodicals now in existence carry out these obligations? There are a number of tasks that scientific periodicals should fulfill. Obviously, it would be a waste of paper if each journal undertook all of these. Some specialization must necessarily develop, if not by design, simply by natural selection, for no one journal could possibly do all the jobs equally well. I conceive the following as the most important of these tasks: 1. First is the publication of original scientific manuscripts that present the results of laboratory and clinical research and descriptions of new instruments and other means of therapy. 2. Next is the recording of rare or new disease entities. 3. Another task is reviews of specific subjects, bringing knowledge of the subject up to date and developing concepts for further research. 4. Abstracts of current literature are important, especially the foreign literature, which might not be easily available to the average ophthalmologist, and literature from journals other than ophthalmologic containing articles of interest to ophthalmologists, for example, the basic science journals and special journals in other fields related to ophthalmology. 5. Annual reviews, covering the whole of ophthalmology should be made, providing a suitably annotated compendium of what was reported during the past year in each particular field. These reports should be done by an expert in each field, who would purposely inject his own criticism into the report, confirming this with appropriate data. The reader would thus enjoy the benefit of seeing the field through the eyes of an expert,

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Read before the Section on Ophthalmology at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

[1] Verhoeff, F. H.: American Ophthalmology During Past Century, Arch. Ophth. 39: 451-464 (April) 1948.

and would be less likely to be misled by reports that only an expert could properly evaluate. 6. Reviews of books may range from a simple notice of publication to a lengthy critical analysis of a book. Such reviews would best not be signed, in order to allow the reviewer freedom to express an opinion. 7. News, announcements of meetings, reports of meetings with discussions of papers presented, obituaries of prominent men, honors bestowed, and appointments to teaching positions and specialty boards all fall within the province of a journal whose job it is to disseminate such news. 8. Editorials may be of almost any nature, ranging from impersonal comment of general interest to a biased stand on some controversial subject with the avowed intention of molding public opinion. 9. Letters to the editor generally take the form of criticizing some article previously published in a particular journal. It would seem only fair to allow the author criticized an opportunity of a rebuttal in the same journal, preferably in the same issue. 10. Historical, sociological, and other cultural data pertaining to ophthalmology should be published. 11. Symposiums, such as the valuable contributions made during the past few years by the Academy of Ophthalmology and Otolaryngology and published in the transactions under Dr. Benedict's direction should be published. Monographs that could not find an outlet through commercial publishing houses are also suitable for publication.

Table 1.—*American Ophthalmologic Journals*

First Publication Date	Name of Journal	Date Publication Suspended
1862	American Journal of Ophthalmology	1864
1864	Transactions of American Ophthalmological Society *	....
1869	Archives of Ophthalmology * †	....
1884	American Journal of Ophthalmology *	....
1889	Journal of Ophthalmology, Otology and Laryngology	1929
1890	American Ophthalmological Monographs	1891
1891	Transactions of Section on Ophthalmology of American Medical Association *	....
1891	Ophthalmic Record	1917
1892	Annals of Ophthalmology ‡	1917
1895	Annales d'Oculistique (English edition)	1896
1896	Transactions of American Academy of Ophthalmology and Otolaryngology *	....
1896	Journal of Eye, Ear and Throat Diseases	1905
1900	Ophthalmologist	1909
1904	Ophthalmic Yearbook §	1926
1904	Ophthalmology: Essays, Abstracts	1917
1907	Journal of Ophthalmology and Oto-laryngology	1917
1911	Ophthalmic Literature	1917
1913	Transactions of Pacific Coast Oto-Ophthalmological Society *	....
1917	Journal Optical Society of America *	....
1920	American Journal of Physiological Optics	1926
1922	Eye, Ear, Nose and Throat Monthly *	....
1923	International Survey of Ophthalmology, Otology, and Rhinolaryngology	1925
1926	Transactions of Indiana Academy of Ophthalmology and Otolaryngology * ‖	....
1938	Digest of Ophthalmology and Otolaryngology *	....
1945	Quarterly Review of Ophthalmology * ¶	....
1948	Transactions of Pennsylvania Academy of Ophthalmology and Otolaryngology *	....
1951	American Orthoptic Journal * ♯	....

* Indicates the journal is still being published.

† From 1869 to 1879 this journal was published as the Archives of Ophthalmology and Otolaryngology.

‡ Vol. 5 was published as the Annals of Ophthalmology and Otolaryngology.

§ This journal was published under various titles.

‖ No volumes earlier than that covering the ninth annual meeting appear to have been published.

¶ This review now appears in the International Record of Medicine and General Practice Clinics.

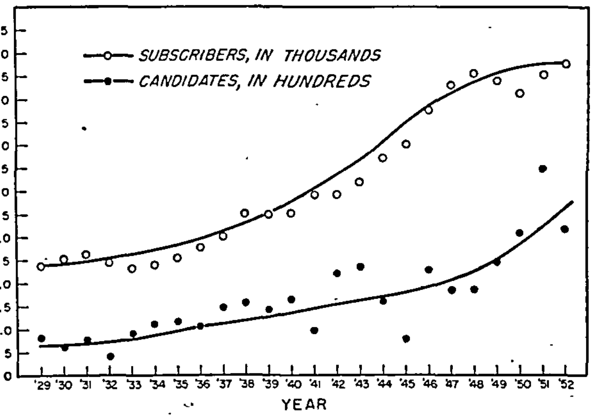
♯ This journal is a supplement to the Transactions of the American Academy of Ophthalmology and Otolaryngology.

Table 2.—*Ophthalmic Journals Started in Each Decade and Number Still in Existence*

Decade	No. Started	No. Existing
1860-1870	3	2
1870-1880	0	0
1880-1890	3	1
1890-1900	6	2
1900-1910	4	0
1910-1920	3	2
1920-1930	4	2
1930-1940	1	1
1940-1950	2	2
1950-	1	1

FUTURE DEVELOPMENTS

It may be said that all the functions listed are being satisfactorily performed by the existing journals, but I would like to point out some deficiencies and suggest ways by which these services might be improved. The most important function of a scientific periodical is the publication of scientific papers. Although the publication of a manuscript in a journal does not necessarily guarantee that the facts it sets forth and the conclusions drawn by the author are correct, or are even agreed to by the editorial board, publication itself sets a value on the paper in the eyes of the readers to the extent that it has met the standards for acceptance of that journal. In the basic sciences these standards have always been high, and it is unusual for an article to appear that does not have merit. The readers expect that the judgment of the editorial board will be good, and if unworthy manuscripts are frequently published, the journal's reputation soon suffers. It is curious that this same feeling of responsibility on the part of the editorial board has not dominated journals in the clinical fields to the same extent that it has in the basic sciences. It is high time that it does so. The subscribers to an ophthalmologic journal have the right to expect the same careful scrutiny of all papers by the editorial board and rejection by that board of any paper that fails to give reasonable evidence



Comparison of number of subscribers to ophthalmic journals and the number of candidates who applied to take the American Board of Ophthalmology examination from 1929 through 1952.

on which the author's conclusions are based. We have all seen manuscripts published in which claims were made for the successful treatment of some disease without adequate proof being submitted by the author. This usually consists of failure to provide suitable controls or lack of proper statistical analysis of the data, as I have pointed out in previous editorials.[2] A shocking example of this was the recent publication of an article[3] claiming successful treatment of cataracts with fish lens protein. There was not the slightest evidence presented in this paper to substantiate the author's claim. No rebuke can be too severe to an editorial board that allows such an unworthy article to be published, especially when, as in this case, the claims were of such widespread public interest that they were picked up and heralded by the lay press throughout the country.

Another obligation of a journal is the rejection of manuscripts that contain nothing new and that merely burden the reading public with a rehash of what probably has been better written before. Unfortunately, publication is too often just as easy for the person with a desire to advertise himself as it is for the author who has something to contribute to his fellows. It is the moral obligation of a journal to reject scientific "potboilers" regardless of how illustrious the author may be. Perhaps the easiest way to lose friends is to become a chief editor.

Publication of papers is one of the chief ways by which a physician attains prominence among his colleagues, who too often thoughtlessly consider quantity of publication rather than quality the criterion by which to judge him. Let us beware of the prolific writer whose pronouncements contain very dilute solutions of thought. Let editorial boards in particular protect the reader from too ambitious authors. The sole purpose of authorship should be to share things of value. In its early days a local medical society, to which I still belong, used to fine its members $25 if they did not publish at least two papers each year. I am inclined to believe that it would now be appropriate to fine each member $25 for each paper in excess of two published during a year.

Finally, the editorial boards of all the journals in this country should be in frequent communication with each other to review problems that are vital to ophthalmology and to agree among themselves how each should specialize and how each can be helpful for the good of all. No new journal should be contemplated without mutual approval. Overspecialization has its dangers. To start a new journal for neuro-ophthalmology, for strabismus, or for research saps some of the strength of each of the existing journals and should be permitted only if it can be shown that the good that would follow compensates for the harm done. It is pleasant to think that ophthalmology is being well served by the existing journals, but their editorial boards should be ever mindful that the ultimate state of perfection in ophthalmic journalism is not yet a reality.

313 S. 17th St.

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[2] Adler, F. H.: editorial, A. M. A. Arch. Ophth. **45**: 365-366, 1951.

[3] Shropshire, R. F., and others: Nonsurgical Treatment of Cataract, Science **116**: 276-278 (Sept. 12) 1952.

CLINICAL NOTES

SEPARATION AND SURVIVAL OF XIPHOPAGUS TWINS

Hyatt Reitman, M.D.
Earl E. Smith, M.D.
and
Jac S. Geller, M.D., Cleveland

Symmetrically conjoined twins are rare. Potter[1] reports only one case in the course of over 60,000 deliveries at Chicago Lying-In Hospital since 1931. Our case is the first occurring at Mount Sinai Hospital in the course of approximately 35,000 deliveries. Potter states that in all symmetrically conjoined twins, except the rare xiphopagus type in which only the lower portions of the sternum are fused, some of the viscera are shared by the two infants and surgical separation is impossible. Eastman[2] reports three authentic cases (omphalopagus type) in which surgical separation was accomplished with the survival of one twin and the death of the other. Further, he states that no case has been reported with the separation and survival of both. A survey of the literature also reveals no reported case of survival of both twins.

It is not within the province of this paper to discuss conjoined twins; the subject is well handled in Potter's "Pathology of the Fetus and the Newborn."[1] We feel, however, that this case is of interest primarily since the conjoined twins were separated and both survived.

REPORT OF CASE

A 27-year-old woman, para 1 and gravida 2, whose expected date of confinement was Jan. 15, 1953, was first seen by one of us (H. R.) when she was two months pregnant. Her previous delivery was vaginal and uncomplicated. The infant was a living boy free of anomalies.

The physical examination revealed a well-developed, well-nourished woman whose general physical condition was good and who had no complaints. The uterus was enlarged to the size of a two month pregnancy, the adnexae were clear, and the cervix was normal. Pelvic measurements were normal. The red blood cell count was 3.51 million per cubic millimeter, and the hemoglobin level 10 gm. per 100 cc. The Kline test was negative, the Rh. factor positive, and the urine free of sugar and albumin. Therapy with Mol-Iron, a hematinic containing molybdenum oxide, 3 mg., and ferrous sulfate, 195 mg., per tablet or teaspoonful, was begun and was continued throughout the pregnancy. Blood pressures and urine specimens were normal until delivery. On Sept. 4, 1952, a clinical diagnosis of a twin pregnancy was made, with both babies presenting as breeches. This was confirmed by roentgenograms made on the same date. Clinical examination on Nov. 18, 1952, revealed that one of the twins was now in a cephalic presentation. Thus, despite the fact that the twins were conjoined, twin A had rotated through an arc of 180 degrees in its spontaneous conversion from a breech to a cephalic presentation. On Dec. 11, 1952, the membranes ruptured spontaneously. The patient did not go into labor, however, and she was admitted to the hospital the next day for observation. Examination revealed the presence of two fetal hearts with

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From the obstetric, pediatric, and surgical services, Mount Sinai Hospital, Cleveland.

[1] Potter, E. L.: Pathology of the Fetus and the Newborn, Chicago, Yearbook Publishers, Inc., 1952, p. 184.

[2] Eastman, N. J.: Williams Obstetrics, ed. 10, New York, Appleton-Century-Crofts, Inc., 1950, p. 619.

engagement of the head of the first twin, the cervix 3 cm. dilated with 50% effacement. Laboratory studies showed a red blood cell count of 3.1 million and a hemoglobin level of 10.3 gm. The patient's blood was typed and cross matched. Prophylactic penicillin therapy, 300,000 units twice a day, was instituted.

On Dec. 14, 1952, at noon, approximately 48 hours after admission, the patient went into labor spontaneously. At 1:30 p. m., examination revealed the cervix to be completely dilated with the presenting part in a low occiput transverse position at 2+ station. In view of the anticipated prematurity of the infants, the patient was not given any analgesia. The patient's cervix remained completely dilated without any further descent or rotation of the infants for one hour; she was then taken to the delivery room. A spinal anesthetic that consisted of 50 mg. of procaine was administered. After that, the patient was prepared for delivery. The presenting head was rotated manually with ease, but a moderate amount of traction was required to deliver it. External rotation brought the shoulders into the anterior-posterior axis of the pelvis. Moderate traction with fundal pressure failed to deliver the shoulders for a few minutes. Suddenly, the feet of the second twin appeared at the introitus, and the possibility of conjoined twins was first entertained. A deep ether anesthetic was given in order to obtain greater relaxation of the uterus. Manual examination failed to reveal any attachment of the twins. In view of the small diameter of the fusion area, as seen after the delivery, this was understandable. Further traction with fundal pressure permitted delivery of the shoulders and chest of the first twin. At the same time, the lower extremities, pelvis, and lower abdomen of the second twin delivered, and the xiphopagus attachment was noted. Delivery of the first twin was completed and the baby placed transversely across the lower abdomen of the mother. Care was taken to avoid tearing the band of attachment between the twins. Delivery of the second twin up to the shoulders was accomplished easily, and, with the second twin's head in an occiput posterior position, the forceps were applied and the delivery completed without difficulty. The large single placenta was delivered spontaneously within five minutes, and the uterus contracted very firmly. The estimated blood loss was 200 cc. A solution, 1,000 cc. of 5% dextrose in water containing 1 cc. of oxytocin (Pitocin) together with 500 cc. of whole blood, was given intravenously. The left mediolateral episiotomy that was made at the beginning of the delivery was repaired. The postpartum course was uneventful, and the patient was discharged six days later.

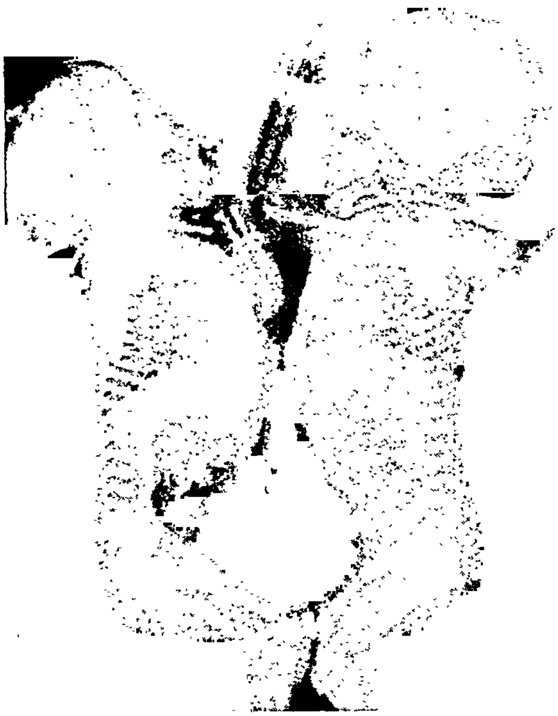


Fig. 1.—Roentgenogram of conjoined twins showing soft tissue connection, but no evidence of bony bridging, in area of inferior sternum.

Examination by one of us (E. E. S.) shortly after delivery showed twin girls one month premature joined in the region of the xiphoid process by a band of tissue measuring about 1 cm. horizontally and approximately 4 cm. vertically. Palpation of the band revealed a bridge of cartilage in its upper portion. The lower segment of the band was torn through, leaving an open laceration in the upper abdominal wall of each infant. Examination revealed two normal infants, except for the above and the fact that twin B had a loud systolic murmur heard in the region of the second left interspace parasternally. It was thought at the time to be a patent ductus arteriosus or a hemic murmur. The infants were wrapped in diapers and placed in an incubator.

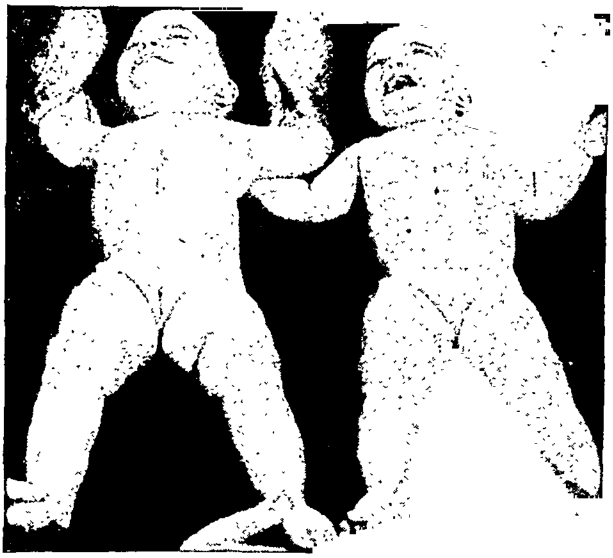


Fig. 2.—Appearance of twin girls approximately nine months after xiphopagus connection was severed.

Simultaneous electrocardiograms taken by Dr. Bernard Brofman revealed normal rates and rhythms that were asynchronous, thereby indicating separate circulatory systems. Roentgenograms revealed conjoined twins with a soft tissue connection in the region of the inferior portion of the sternum without definite evidence of bony bridging (fig. 1). Aside from this, no definite abnormalities were noted.

After the administration of vitamin K, penicillin, and streptomycin, the twins were taken to surgery. They were placed on the operating table so that twin A was on her right side and twin B on her left side. Oxygen, without anesthesia, was administered continuously throughout the entire procedure. The abdomens of both infants, as well as the connecting band, were prepared with benzalkonium (tincture of Zephiran) chloride. By sharp dissection, one of us (J. S. G.) made an incision through the skin of the band. The parietal peritoneum of twin A was visualized, but the peritoneal cavity was not entered. A few bleeders were clamped, cut, and ligated with 0000 absorbable chromic surgical sutures. The cartilaginous bridge between the two babies was severed with scissors, and the posterior skin was cut with a scalpel. This completely separated the two babies. A moist sponge was placed over the defect in the abdominal wall of twin A. The defect in twin B was repaired first. Subcutaneous tissues were brought together over the xiphoid process by means of 0000 absorbable chromic surgical sutures, and skin edges were approximated by means of 00000 silk interrupted sutures. A dry sterile dressing was applied, and the infant was taken from the operating room. The defect in twin A was repaired in a like manner. Both infants withstood the procedure well.

The infants were given nothing to eat by mouth for 18 hours and fed Karo water every 3 hours for two feedings and then a standard evaporated milk formula every 4 hours. The infants were placed in an incubator, and oxygen was given continuously for six hours postoperatively. Penicillin and streptomycin were given for three days. Twin A weighed 2,410 gm. the morning after delivery and was discharged weighing 2,520 gm. Twin B weighed 2,210 gm. the morning after delivery and was discharged weighing 2,275 gm. The murmur heard on the first day became very loud (grade 3). A questionable thrill was present. The heart was not enlarged. On the third day of life generalized cyanosis was noted, and it was evident that a congenital heart of the cyanotic type was present. At this time, an auricular septal defect or a tetralogy of Fallot was considered. The babies were discharged after 14 days. To aid the mother in the preparation of formulas liquid Similac was prescribed. At the present time, the infants are nine months of age and very well (fig. 2).

SUMMARY

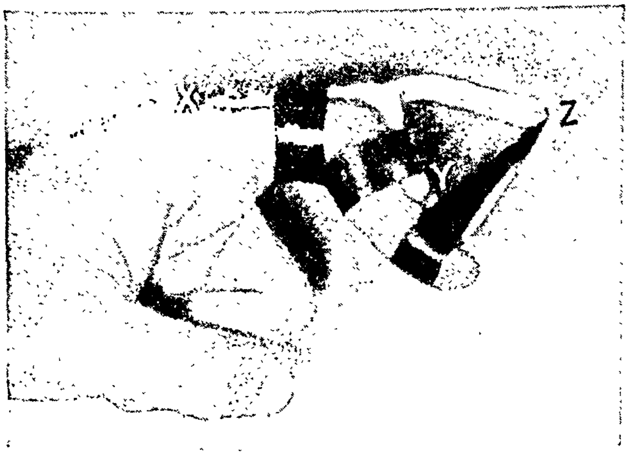
The delivery and surgical separation of xiphopagus twin girls is described. Both twins survived after being separated.

10515 Carnegie Ave. (6) (Dr. Reitman).

NEW SPLINT FOR MANAGEMENT OF MALLET FINGER

Louis Spigelman, M.D., Los Angeles

The mallet finger injury is frequently seen in general practice. The injury consists of an avulsion of the extensor tendon of a finger from its insertion, frequently with a fragment of bone, into the base of the distal phalanx. The extensor tendon of the finger divides over the back of the proximal phalanx into a central portion inserting in the base of the middle phalanx and two lateral slips that fuse together and insert on the base of the distal phalanx. When this latter insertion is torn, retraction takes place.



Splint in place (black adhesive tape used for illustrative purposes only).

Any principle of treatment for this condition must include this factor, and in treating the condition the raw area at the base of the distal phalanx must be opposed to the retracted extensor tendon. This is possible only if the distal interphalangeal joint is hyperextended while the proximal interphalangeal joint is kept at approximately 60 degrees of flexion.[1]

The difficulty of maintaining this position is well known, and a practical splint capable of maintaining this position has not been devised. Former treatment consisted of the use of a plaster of paris cast that held the terminal phalanx in hyperextension and the proximal joint at approximately 60 degrees of flexion. Anyone who has attempted to apply this type of cast realizes the difficulty of application and maintenance.

The illustrated splint (see figure) has been found to maintain the necessary position without difficulty. The splint is made easily from a strip of galvanized sheet iron or aluminum and then is padded and applied with adhesive tape.

In applying the splint, one part (*X* of the figure) is taped to the proximal phalanx. The circulation should not be restricted. The horizontal portion (*Y*), which rests against the dorsal aspect of the middle phalanx, must be extremely well padded with a strip of felt. It is important to make sure that the edge of the splint does not dig into the surface. A small pad is applied to the pulp of the distal phalanx, and then the adhesive sling is made and anchored to the upright (Z). The splint can be easily adjusted and changed, especially if the patient is told how to maintain the joints in the required position. The splint should remain in place for six weeks.

6317 Wilshire Blvd.

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[1] Bunnell, S.: Surgery of the Hand, Philadelphia, J. B. Lippincott Company, 1944, p. 355-356, 490-493. Watson-Jones, R.: Fractures and Joint Injuries, ed. 3, Edinburgh, E. & S. Livingstone, 1946, vol. 2, p. 592-595.

COUNCIL ON PHARMACY AND CHEMISTRY

NEW AND NONOFFICIAL REMEDIES

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application.

R. T. Stormont, M.D., *Secretary.*

Quinine Carbacrylic Resin.—Diagnex (Squibb).—The quinine salt of a polyacrylic carboxylic acid resin containing about 1.85% of quininium ion.

Actions and Uses.—Quinine carbacrylic resin, a complex of quininium ion and carbacrylic resin, is employed as an indicator for the detection of gastric anacidity (achlorhydria) without intubation. After oral administration of the drug, the quinine in the resin is displaced by the hydrogen ions of free hydrochloric acid that may be present in the stomach. Approximately 1% of the displaced quinine is excreted in the urine within two hours following administration of the resin. A stimulant to gastric secretion is given one hour before administration of the resin. Urine voided during that hour serves as a control sample. Assay of the quinine content of urine specimens, collected at the end of the one hour control period and two hours after administration of the resin, is performed as an indication of the presence or absence of free hydrochloric acid in the stomach.

Assay of the urine for quinine is based on the measurement of its fluorescence in aqueous extract under ultraviolet light. Estimation of the urinary quinine level by this method may be carried out with a photoelectric fluorophotometer for direct calculation from a predetermined standard curve, or by visual comparison with freshly prepared standard solutions containing known amounts of quinine. If the fluorescence of the control sample corresponds to 15 mcg. or more of quinine, the entire test should be disregarded. It indicates that the patient is excreting excessive amounts of blank fluorescent materials which may result from the use of quinine or related drugs, or vitamins of the B-complex or the steroid compounds. The use of any such medication should be discontinued for one week and the test repeated. If the result from the control sample corresponds to 5 to 15 mcg. of quinine, the result from the test specimen should be corrected by subtracting the amount found in the control. If the amount in the control is less than 5 mcg., it may be ignored. The interpretation of the absence or presence of free gastric hydrochloric acid is as follows: Free gastric hydrochloric acid is absent if 15 mcg. of quinine or less is excreted in the two hour urine specimen. Free gastric hydrochloric acid is present if more than 15 mcg. of quinine is excreted in the two hour urine specimen. A range of quinine between 15 and 30 mcg. signifies a low degree of gastric acidity.

The quinine carbacrylic resin test does not furnish exact quantitative results; however, it is convenient for screening patients with minor gastric symptoms that are not considered sufficiently significant to warrant the discomfort of intubation gastric analysis or other more expensive diagnostic procedures. It should not be employed in lieu of more extensive examinations whenever these may be indicated. Until the physician has acquired experience with the resin method, doubtful results should be confirmed by repetition of the test after an interval of five to seven days. The resin test method for achlorhydria is considered useful for the diagnosis of suspected cancer of the stomach, pernicious anemia, and gastric polyps.

Quinine carbacrylic resin is of low toxicity, but it should not be given to patients with an idiosyncrasy to quinine or related drugs.

Dosage.—Quinine carbacrylic resin is administered orally as a single test dose of 2 gm. in the form of granules. Patients who are given the test should be instructed not to eat after midnight preceding the day of the test. On the morning of the test the patient should empty the bladder and discard the urine. Breakfast is withheld until the test is completed. The contents of a 0.25 gm. capsule of caffeine and sodium benzoate is stirred and taken in one-half glass of water followed by another one-half glass of water or cup of coffee or tea, without cream, milk, or sugar. One hour later or as soon thereafter as is possible, the patient voids and saves this specimen in a bottle marked "urine control." Then the 2 gm. dose of the resin is stirred well and taken in one-fourth glass of water (without chewing the granules), followed by another one-fourth glass of water. Exactly two hours after taking the resin, the urine should be voided and the entire amount saved in a bottle marked "urine sample." The bladder should be completely emptied each time; if urination ahead of the scheduled time is necessary, it should be added to that passed at the end of the designated period. After the last specimen is completed, the patient may eat breakfast. The two specimens should be delivered to a clinical laboratory as soon as it is convenient.

If desired, an injection of histamine phosphate may be used in place of oral caffeine as a stimulant to gastric secretion and the control specimen collected after a 45 minute period.

Tests and Standards.—

Physical Properties: Quinine carbacrylic resin is a buff, odorless, tasteless, free-flowing, amorphous, granular solid. It is practically insoluble in dilute acids and alkalis, alcohol, ether, and water.

Identity Tests: A 0.002% solution of anhydrous quinine hydrochloride, prepared from quinine carbacrylic resin as directed in the spectrophotometric assay for quininium ion, exhibits ultraviolet absorption maxima at about 318 and 346 mμ. [specific absorbancy, E(1%, 1 cm.), about 1501, and minima at about 270 and 325 mμ. The ratio of the absorbancies at 318 and 346 mμ. is 1.17-1.28.

Purity Tests: Dry about 1 gm. of quinine carbacrylic resin, accurately weighed, at 105° for 2 hours: the loss in weight does not exceed 5.5%.

Char about 1 gm. of quinine carbacrylic resin, accurately weighed, cool the residue, add 1 ml. of sulfuric acid, heat cautiously until evolution of sulfur trioxide ceases, ignite, cool, and weigh: the residue does not exceed 0.2%. Save the residue for the heavy metals test.

Dissolve the residue from the ignition by heating on a steam bath with 20 ml. of water containing 2 ml. of diluted acetic acid. Run a *U. S. P. heavy metals test:* the amount of heavy metals does not exceed 20 ppm.

Assay: (Quininium Ion) Prepare a 0.002% solution of anhydrous quinine hydrochloride from quinine carbacrylic resin as follows. Transfer to a 250 ml. glass-stoppered Erlenmeyer flask about 1 gm. of quinine carbacrylic resin, accurately weighed, add 100 ml. of 0.3% hydrochloric acid, accurately measured, and shake the flask mechanically for 15 min. Centrifuge a portion of the mixture. Transfer to a second 100 ml. volumetric flask 10 ml. of the clear centrifugate, fill to the mark with 0.3% hydrochloric acid, and mix. Spectrophotometrically determine the absorbancy in a 1 cm. quartz cell at 346 mμ. using 0.3% hydrochloric acid as a blank. The concentration of anhydrous quinine hydrochloride in the solution in mg./ml. = absorbancy ÷ 15.0. The amount of anhydrous quinine hydrochloride is not less than 1.84 nor more than 2.25%, equivalent to not less than 1.66 nor more than 2.03% of quininium ion.

Dosage Forms of Quinine Carbacrylic Resin

GRANULES. The resin granules respond to the tests and standards for the active ingredient in the monograph for quinine carbacrylic resin.

E. R. Squibb & Sons, Division of Mathieson Chemical Corporation, New York.

Granules Diagnex: A quininium indicator resin, each test containing a 2 gm. packet of quinine carbacrylic resin and a 0.25 gm. capsule of caffeine and sodium benzoate. U. S. Trademark 568,004.

Amphetamine Sulfate-U.S.P. (See New and Nonofficial Remedies 1953, p. 187)

Smith, Kline & French Laboratories, Philadelphia.

Spansule Sustained Release Capsules Benzedrine Sulfate: 15 mg. U. S. trademarks 562,210 and 337,407.

Hexamethonium Chloride (See New and Nonofficial Remedies 1953, p. 241)

Burroughs Wellcome & Company, Inc., Tuckahoe, N. Y.

Solution Hexameton Chloride: 10 cc. vials. A solution containing 0.135 gm. of hexamethonium chloride (0.1 gm. hexamethonium ion) in each cubic centimeter. Preserved with 0.1% methylparaben. U. S. trademark 572,762.

Hyaluronidase (See New and Nonofficial Remedies 1953, p. 321)

E. R. Squibb & Sons, Division of Mathieson Chemical Corporation, New York.

Enzodase Lyophilized: Vials containing 150 or 1,500 turbidity-reducing units of powdered hyaluronidase. Preserved with 0.02 mg. and 0.2 mg. of thimerosal, respectively.

Hydrocortisone Acetate (See New and Nonofficial Remedies 1953, p. 351)

Merck & Co., Inc., Rahway, N. J.

Ointment Hydrocortone Acetate: 5 gm. tubes. An ointment containing either 10 mg. or 25 mg. of hydrocortisone acetate in each gram.

Menadione-U.S.P. (See New and Nonofficial Remedies 1953, p. 510)

Lincoln Laboratories, Inc., Decatur, Ill.

Solution Menadione in Oil with Benzyl Alcohol 2%: 15 cc. vials. A solution in sesame oil containing 2 mg. of menadione in each cubic centimeter. Preserved with 0.5% chlorobutanol.

Meth-Dia-Mer-Sulfonamides (See New and Nonofficial Remedies 1953, p. 110)

Lloyd & Dabney Company, Inc., Cincinnati.

Tablets Sulfaloid: 0.25 gm. Each tablet contains 83 mg. each of sulfadiazine, sulfamerazine, and sulfamethazine.

0.5 gm. Each tablet contains 0.167 gm. each of sulfadiazine, sulfamerazine, and sulfamethazine.

Methylbenzethonium Chloride (See New and Nonofficial Remedies 1953, p. 83)

Chemo Puro Manufacturing Corporation, Long Island City, N. Y.

Powder Methylbenzethonium Chloride: Bulk; for manufacturing use.

Naphazoline Hydrochloride-U.S.P. (See New and Nonofficial Remedies 1953, p. 200)

Ciba Pharmaceutical Products, Inc., Summit, N. J.

Solution Privine Hydrochloride 0.05%: 15 cc. nebulizers.

Phenindione (See THE JOURNAL, May 9, 1953, p. 142)

Gane's Chemical Works, Inc., Carlstadt, N. J.

Powder Phenindione: Bulk; for manufacturing use.

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OVERNUTRITION AND UNDERNUTRITION

In spite of the vast amount of research in nutrition that has been carried on in recent years, little work has been done to determine the ideal plane of nutrition for different age and occupational groups. Slowly, however, bits of evidence are being fitted into place. McCance[1] has assembled some pertinent facts that are worthy of thoughtful consideration. He points out that the drive to eat and drink are essential to survival but that the control of this drive is not easily understood or, if understood, is not easily accepted and put into practice by many persons in our present civilization. Obesity has never been a problem in wild animals in their native state or in primitive man, because food was hard to obtain and it was a long time between the more lavish feasts. With the advent of modern methods of providing food, however, a certain amount of prosperity is often reflected in a tendency to overeat. The eating of only very slightly more food each day than is required to supply the energy expended will in a few years result in overweight. This and reduced activity account for the greater average weight of men of 45 as compared to those of the same height at 25 years. In the main, obesity depends on an opportunity for leisure and a plentiful supply of food. Although a sense of fulness in the stomach and the general sedation that accompanies it causes most persons to stop eating, the pleasant drowsiness induced by overeating is either consciously or unconsciously sought by certain persons with an emotional imbalance, and these are the overweight patients who are hardest to treat by dietary restrictions alone.

That the effects of obesity are serious is amply supported by the statistics of insurance companies. The obese are poor surgical risks and are predisposed to hypertension, diabetes, and atherosclerosis. It has been shown that in persons with a high serum cholesterol level atherosclerosis develops at an earlier age than in persons with normal or low levels. On the basis of this observation it was prematurely assumed in some quarters that the progress of atherosclerosis could be retarded by putting patients on a low cholesterol diet. This now appears not to be true, because both fats and cholesterol are readily synthesized in the body and neither increasing nor decreasing the cholesterol in the diet appreciably affects the serum cholesterol level. On the other hand, it is true that this level increases with age and with increases in body weight. Walker[2] has shown that, contrary to popular belief, there is a lowering of serum lipids with rapid weight loss even though liberal amounts of cholesterol are present in the diet. A nearly fat-free diet is not essential to rapid weight loss and may actually have a harmful effect on the body economy. It may be concluded then that any kind of diet that causes overweight will further atherosclerosis and that the best preventive measure is to remain at or slightly below the "ideal" weight.

Undernutrition may be due to famine, chronic debilitating disease, or to psychogenic causes associated with depression. Severely undernourished persons feel cold all the time, sleep poorly, develop a mild anemia, and as the condition progresses their skin becomes dry and scaly; they have diuresis that is increased when they assume a recumbent position, and they have diarrhea, edema, enlargement of the parotids, and gynecomastia. Severely undernourished persons at first become restless and overactive. During famines, any food that is acquired is taken home and shared with the whole family but is hidden from the neighbors. As conditions grow worse, persons no longer share with anyone else and steal from members of their own family. They may even commit murder for a crust of bread. Finally, if conditions are not relieved, complete apathy follows and death ensues.

The offspring of a mother who is undernourished resemble prematures even at full term. Undernourished children grow slowly as measured by height, weight, and "bone age." This slows their maturation and prolongs their life. Animal husbandmen have bred and fed their animals for rapid maturation. McCance believes our political husbandmen may be doing the same to our children by providing midmorning milk in school. Here it would seem that the author ignores the fact that many a listless, apparently retarded child when put on a school program of midmorning milk becomes alert and shows normal or superior intelligence. Can it be that he is placing longevity above accomplishment?

The ideal weight for a given height cannot, in the light of present knowledge, be determined categorically. It varies somewhat with the individual, his activity, age, and sex. Furthermore, most healthy persons voluntarily control their weight at the level they prefer. However, these observations and other findings require further study before many of the questions pertaining to nutrition are answered satisfactorily. Overnutrition and undernutrition constitute an almost overwhelming challenge for most of the world.

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[1] McCance, R. A.: Overnutrition and Undernutrition: I. Causes, Lancet 2:685 (Oct. 3) 1953; Overnutrition and Undernutrition: II. Effects, ibid. 2:739 (Oct. 10) 1953.

[2] Walker, W. J.: Relationship of Adiposity to Serum Cholesterol and Lipoprotein Levels and Their Modification by Dietary Means, Ann. Int. Med. 39:705 (Oct.) 1953.

POSTGRADUATE CONTINUATION COURSES FOR PHYSICIANS

The semiannual listing of postgraduate continuation courses for physicians, covering the period January 1 to July 15, 1954, appears elsewhere in this issue. These data, prepared as a regular service by the Council on Medical Education and Hospitals, list 1,034 courses varying in length from a few days to several months and extending to full academic years. The listing includes 539 courses offered on a full-time basis, 476 part-time courses, and 19 courses arranged to suit the convenience of the physician student. For this period, postgraduate education in some form will be offered in 35 states, the District of Columbia, and Puerto Rico. The subjects include 40 areas in the field of clinical medicine and 8 basic science subjects. There are opportunities for the physician in general practice as well as the specialist. Many courses are designed to be of assistance to physicians preparing for specialty board certification. The courses that are available for this purpose are specifically designated by a footnote. In addition, a series of courses for military personnel at medical installations are included. In a number of instances, the series is made available to civilian personnel. Notably, among the opportunities provided in this listing is a course in civilian defense.

Medical Schools, state medical societies, hospitals, graduate schools of medicine, postgraduate institutes, and state chapters of the American Academy of General Practice continue to be active in presenting this type of postgraduate education. One hundred and fifty-five agencies are participating in sponsoring the courses in this listing, including 38 medical schools, 15 hospitals, 11 graduate schools of medicine, 17 special societies, 13 state and county medical societies, 4 state health departments, 5 academies of general practice, 4 government agencies, and 1 school of public health. The remaining courses were given by liberal arts colleges, institutes, assemblies, seminars, alumni associations, foundations, and groups established for the purpose of providing postgraduate training. For many of the courses a combination of these agencies participated in sponsoring the opportunities listed. Additional contributing and sponsoring agencies are specifically indicated at the conclusion of the description of the courses.

In addition, the Council is currently engaged in the preparation of a comprehensive report on postgraduate education based on a field study throughout the country consisting of facts, figures, and opinions. A comprehensive questionnaire has recently been sent to 18,000 physicians to obtain additional data from the point of view of the physician who has taken continuation work. The Council hopes that all who have received this questionnaire will cooperate in order that this highly important aspect of its study can be adequately analyzed. Institutions and organizations offering postgraduate continuation courses for physicians are invited to announce their courses in the Council's semiannual listing.

PREVENTION OF FIREARM ACCIDENTS

Although firearms are owned and used safely by most Americans, unfortunately, through either ignorance or carelessness, many of them fail to exercise adequate precaution in their handling. Each year firearm accidents take about 2,200 lives in the United States, the death toll reaching its peak during the hunting season. The firearm fatalities among hunters are due to the discharge of guns when men carrying loaded weapons trip, stumble, or handle them carelessly while climbing over or under a fence; loading and unloading weapons; walking into the line of fire; and being mistaken for game. According to a recent study,[1] more hunters are fatally injured by the guns of their companions than by the weapons of other hunting parties, and at least four out of every five hunters reported killed by others were hit by members of their own group.

A majority of firearm deaths in and about the home, many of which occur in young children, result from the dangerous practice of playing with a gun—an "unloaded" gun frequently being pointed and fired at the victim—and from the accidental discharge of firearms while they are being cleaned, repaired, examined, or demonstrated. Some lives are lost during a scuffle for the possession of guns, while others are needlessly sacrificed as the result of a game called "Russian roulette," in which the cylinder of a gun containing but one cartridge is spun around, the participant pointing the gun at his head and pulling the trigger on the chance that it is opposite an empty chamber.

Since firearm accidents obviously represent a needless loss of life, an organized effort should be made by the people of the United States to reduce their incidence. This could be accomplished by adopting three simple measures: (1) leaving no firearms where young children can get at them; (2) not permitting inexperienced hunters to go afield without proper supervision; and (3) constantly emphasizing the necessity for caution in handling guns safely.

CONTEMPORARY OPHTHALMIC JOURNALISM

Elsewhere in this issue, Adler traces, evaluates, and speculates on the past, present, and future of ophthalmic journalism in the United States. Ever since the first American journal devoted exclusively to ophthalmology appeared in 1862, subsequent journals have been published in response either to the growth of scientific organizations or to the increasing number of physicians specializing in ophthalmology. Ophthalmic periodicals attained their numerical height at the turn of the present century, but since then the number has gradually fallen off; of 27 journals published since 1862, only 13 have survived.

How well these 13 periodicals now extant carry out their functions and obligations to ophthalmologists at large can be determined readily enough. Since no single ophthalmic journal can conceivably perform all functions equally well, it is not surprising that specialization has developed in the interests and content of the various journals in the field. In general, the functions of contemporary ophthalmic journals include such varied items as the publication of original scientific manuscripts, the description of new therapy and new instruments, the recording of new or rare disease entities, the annual review of specific topics, reviewing of books, and the publication of abstracts of current foreign and American literature, news of interest to ophthalmologists, editorial comment, correspondence to the editor, symposiums, and historical and sociological data pertaining to ophthalmology.

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[1] Firearm Accidents Can Be Prevented, Statist. Bull. Metrop. Life Insur. Co. 34:7 (Sept.) 1953.

While these functions are, as a rule, performed in a satisfactory manner, a number of deficiencies still exist in editorial towers. Articles accepted for publication should have something to say, since the publication of articles that do not possess merit quickly damages the reputation of a journal. Another obligation of a well-edited journal is the rejection of manuscripts that are a rehash of material that has been better written before. Finally, editorial boards of specialty journals published in the United States would strengthen the cause of ophthalmic journalism by communicating frequently with one another for the purpose of analyzing ophthalmic problems that are of vital interest to ophthalmologists. Until these steps are taken, it would be well to acknowledge that perfection in ophthalmic journalism, as in other forms of journalism, is not yet an accomplished fact.

Joseph I. Greenwell, M.D.

THE ANNUAL GENERAL PRACTITIONER'S AWARD

The Board of Trustees of the American Medical Association announced at the annual Clinical Meeting in St. Louis on December 1 that Dr. Joseph I. Greenwell of New Haven, Ky., had been selected as "general practitioner of the year." Each local medical society has the right to propose a candidate to the state medical society, which in turn selects one name to be submitted to the Board of Trustees, a special committee of which chooses the recipient of the General Practitioner's Gold Medal and a citation of service to his community.

Dr. Greenwell, who is the seventh physician to be so honored, was born in Balltown, Ky., on November 27, 1873. He attended the Nelson County public schools, and received his B.A. and M.A. degrees from Cecilia College and his M.D. from the Louisville Hospital College of Medicine in 1900. For 53 years, he has practiced medicine in Nelson, Hardin, LaRue, and Marion counties, mostly within a 25-mile radius of New Haven, where his office has been throughout this period. The area in which he has practiced medicine includes Kentucky's "Lincoln country"; in fact, Lincoln was born less than 20 miles from the place where Dr. Greenwell now has his office. He has been acting health officer for Nelson County for the last eight years and is a consulting physician for the Louisville and Nashville Railroad and the Gethsemane Abbey.

Since good roads and various other conveniences have come to much of the rugged land only during the last 15 to 25 years, many of the doctor's professional chores have been under conditions almost as primitive as those which prevailed when Abraham Lincoln was born. He has answered calls by horse and buggy, on foot, by rowboat, and even by switch-engine as well as by automobile.

The use of the latest recognized scientific knowledge has been evident in all of Dr. Greenwell's professional activities. During World War II he served for four years as examining physician for the Nelson County Selective Service Board. He has rarely missed the annual scientific session of the Kentucky State Medical Association or other opportunities to keep himself informed about advances in medicine. He was in the forefront supporting the establishment of a hospital in Nelson County. Of great professional pride for Dr. Greenwell have been the nearly 4,300 babies he has delivered, of which more than 80 were born this year. Some of these deliveries took place in log cabins and some in the modern and new Flaget Memorial Hospital in Bardstown. Dr. Greenwell has been much interested in organized medicine, has been active at state, district, and county levels. Until his resignation this year, he had served for 30 years as councilor for the fourth district of the Kentucky State Medical Association. He is a past president of the Nelson County Medical and Muldraugh Hill Medical societies and a member of the American Medical Association, the Kentucky State Medical Association, and the Southern Medical Association.

Dr. Greenwell has shown his active interest in the affairs of his community by serving for 25 years as a member of the board of trustees and for 14 years as mayor of New Haven. During his administration as mayor, townspeople saw the construction of New Haven's first sidewalks, the installation of street lights, and the establishment of a public water works. He is a director and vice-president of the Bank of New Haven. With the selection this year of Dr. Greenwell, another family doctor is added to the roster of truly outstanding general practitioners.

ORGANIZATION SECTION

DR. McLESTER RECEIVES NUTRITION AWARD

The Joseph Goldberger award for outstanding contributions in the field of clinical nutrition was awarded November 28 to Dr. James Somerville McLester of Birmingham, Ala., during a meeting in St. Louis of the A. M. A. Board of Trustees. Presented by the A. M. A. through its Council on Foods and Nutrition, the annual award includes a gold medal and $1,000. Dr. McLester was cited for the outstanding role he has played in translating the results of nutrition research into human values and in the integration of nutrition into the teaching of all phases of medicine.

A practicing physician for more than 50 years, Dr. McLester now is associated with his son, Dr. James B. McLester, in the McLester Clinic, Birmingham. His book "Nutrition and Diet in Health and Disease" is widely used in the teaching of nutrition. He is professor emeritus of medicine at the Medical College of Alabama.

Dr. McLester also has been very active in medical society activities for many years. He was president of the American Medical Association in 1935 and was chairman of its Council on Foods and Nutrition. He is the fourth recipient of the award, which is made possible through grants by the Nutrition Foundation, New York. Previously, the presentation was made to Dr. Randolph West, professor of medicine, Columbia College of Physicians and Surgeons, New York; to Dr. Fuller Albright, associate professor of medicine, Harvard Medical School, Boston; and to Dr. William Henry Sebrell Jr., director, National Institutes of Health, U. S. Public Health Service, Bethesda, Md.

SCIENTIFIC EXHIBIT, SAN FRANCISCO MEETING

Plans for the Scientific Exhibit at the San Francisco Meeting are progressing rapidly. The 20 sections of the Scientific Assembly are arranging groups of exhibits dealing with their respective specialties, and there will also be several features, including cardiovascular diseases, fractures, and fresh pathology. All exhibits will be of such a nature that they will be of interest to the physician in general practice and to specialists.

The Committee on Scientific Exhibit of the Board of Trustees consists of Leonard W. Larson, M.D., Bismarck, N. D., Chairman; James R. McVay, M.D., Kansas City, Mo., and Julian P. Price, M.D., Florence, S. C. The Advisory Committee includes Harry J. Corper, M.D., Denver, James P. Leake, M.D., San Jose, Calif., Frederick P. Moersch, M.D., Rochester, Minn., Alton Ochsner, M.D., New Orleans, Howard F. Root, M.D., Boston, and Francis Scott Smyth, M.D., San Francisco. Applications for space at the San Francisco Meeting close on Jan. 18, but applications should be submitted as early as possible before that date. Application blanks may be obtained from the above committee members, from Section representatives, or from the Director, Scientific Exhibit, American Medical Association, 535 N. Dearborn St., Chicago 10, Ill.

CONFERENCE OF A. M. A. AND FARM LEADERS

Rural health problems pertaining to doctor distribution, physicians' fees, the closing of small community hospitals because of financial difficulties, and, especially, voluntary prepayment plans were discussed Sept. 30 at a dinner sponsored by the A. M. A. Council on Rural Health. The meeting, held in Chicago, was attended by 45 persons, for the purpose of exchanging ideas in the hope of solving some of the many health problems that affect rural areas. Among those attending were members of the board of directors and of the staff of the American Farm Bureau Federation, the regional directors of the Associated Women of the American Farm Bureau Federation, members of the A. M. A. Council on Rural Health, Dr. F. J. L. Blasingame, representing the A. M. A. Board of Trustees, and Dr. Bert Howard, assistant secretary.

FOUNDER'S CUP PRESENTED TO A. M. A.

The A. M. A. has come into possession of a beautiful sterling silver cup presented 52 years ago to Dr. Nathan S. Davis, who, more than anyone else, may be credited with being the founder of the A. M. A. The cup, a token of the esteem of his medical colleagues in Chicago, has been given to the A. M. A. by two of his grandchildren, Dr. Nathan S. Davis III, Chicago, and Mrs. Ruth Boissevain, widow of Dr. Charles H. Boissevain.

Inscribed on one side of the cup is the legend: "Presented to Nathan Smith Davis, A.M., M.D., LL.D., in recognition of his long and distinguished service to medicine in its every field of usefulness by the members of that profession which he has so conspicuously adorned and to whose shield he has given an added lustre. October 5, 1901." On another side is the Latin inscription: "Palman Qui Meruit Ferat"—"Let him who has won it bear the palm"—and the citation: "Pioneer in local and national organization and in graded medical instruction." On a third side is an engraved portrait of Dr. Davis, who died in 1904 at the age of 87.

NEW ASSOCIATE SECRETARY OF COUNCIL

Dr. Walter S. Wiggins, who has been assistant dean for graduate and postgraduate medical education at the State University of New York, Syracuse, since 1951, will join the A. M. A. headquarters staff Jan. 1. He is taking over the position of Associate Secretary of the A. M. A. Council on Medical Education and Hospitals, replacing Dr. Francis R. Manlove, who recently became director of the medical center and dean of the department of medicine, University of Colorado School of Medicine, Denver. Dr. Wiggins was graduated from Jefferson Medical College, Philadelphia, in 1941.

TODAY'S HEALTH WINS AWARDS

Today's Health, a monthly magazine published by the A. M. A., recently won two awards in the annual magazine show of the American Institute of Graphic Arts in New York. Ninety-two layouts were selected from some 2,000 entries for awards and exhibition. This was the first time since 1951 that *Today's Health* had entered this show, the most important magazine show in this hemisphere. It also won two awards at that time. One of the winning layouts, designed by Artist Charles Turzak, was for the article "How to Read Science Stories." Written by Patricia Jenkins, assistant managing editor of *Today's Health,* the article was published in the May issue and is being reprinted in a handbook for college science teachers.

NEW A. M. A. PUBLICATIONS

Apparatus Accepted, 1953 edition, a publication of the A. M. A.'s Council on Physical Medicine and Rehabilitation, is now available. This booklet lists and describes briefly various devices that meet the Council's standards of acceptance. Also included in the booklet are the Council's rules for submitting products and the minimum requirements for certain devices. Copies may be obtained from the Council.

New Ways to Better PR.—A digest of proceedings of the Second Medical Public Relations Institute held Sept. 2-3, 1953, in Chicago.

NEW FILM IN MOTION PICTURE LIBRARY

"School Health in Action," a sound-and-color film produced for the Oklahoma State Department of Health with the cooperation of the Oklahoma State Medical Association, has been added to the A. M. A. motion picture library. This film is the story of Waytoka, a typical city in Oklahoma—how it recognized its school health problems and through community effort launched a movement for solving these problems. The service charge for this motion picture is $2.00.

MEDICAL NEWS

CONNECTICUT

Howe Award to Dr. Wilson.—The American School Health Association recently cited Dr. Charles C. Wilson, professor of education and public health at Yale University, New Haven, as a "distinguished contributor to the health of school children" and bestowed on him the William A. Howe award. Dr. Wilson, a former president of the American School Health Association, was editor of "Health Education," a report of a Joint Committee on Health Problems and Education set up by the National Education Association and the American Medical Association. He is the author of health texts for both elementary and secondary schools. Last spring he received the medal of the City of Paris for his contribution in the formation of the International Union for Health Education of the Public. He is president of the Connecticut Health League and former president of the Connecticut Tuberculosis Association. Dr. Wilson served as director of the department of health and physical education in the public school system of Evansville, Ind., from 1928 to 1934, and in the schools of Hartford from 1934 to 1941, when he was appointed professor of health and physical education at the Teachers College of Columbia University. He has been a member of the Yale faculty since 1946.

ILLINOIS

Trucking Industry Fellowships.—The Illinois Trucking Industry in observance of its 50th anniversary announces the establishment of two $5,000 fellowships for further study of mentally retarded children. The fellows will be chosen from graduates of medical schools in the midwest. Final selection will be made by a committee composed of Dr. Karl Meyer, chief of staff at Cook County Hospital, Chicago; Dr. John Bigler, head, department of pediatrics, Northwestern University Medical School; Dr. Samuel Hoffman, director of Hektoen Institute for Medical Research; Dr. Abraham Levinson, director, Dr. Julian D. Levinson Research Foundation at the institute; Ted Baker, president, Central Motor Freight Association of Chicago; and Walter Mullady, past president, American Trucking Association. The fund will pay each fellow $5,000 during the year-long training period and an additional $5,000 to cover other costs in connection with the study period. The work will be done under Dr. Levinson.

Chicago

Society News.—At the meeting of the Illinois chapter of the American College of Chest Physicians, Chicago, Dec. 11, Dr. John B. Schwedel, assistant clinical professor of medicine, Columbia University College of Physicians and Surgeons, New York, presented "Roentgenology of the Normal and the Abnormal Heart."——The Chicago Heart Association and the Society of Internal Medicine will hold a joint meeting Dec. 14, 8 p. m., at the Drake Hotel. The following program will be presented:

Isolation and Characterization of the Mammalian Striated Myofibrils, Arnold Brown and George M. Hass.
Pathological Changes in Congestive Heart Failure, Oglesby Paul, Gordon F. Vawter, Albert W. Schweitzer, Armin F. Schick, and George M. Hass.
Experimental Atherosclerosis (Recent Advances), Richard Jones.

Dr. Edith Potter Honored.—Dr. Edith L. Potter, associate professor of pathology at the University of Chicago, was awarded the honorary degree of doctora honoris causa by the University of Brazil at Rio de Janeiro, Oct. 1, at the dedication of the Instituto de Puericultura, the University's new hospital for children under 2 years of age. Dr. Potter was invited to set up the pathology laboratory of the institute when it was under construction in 1949. She received an award of achievement in 1951 from the University of Minnesota, Minneapolis, for research in the causes of infant death and the Rh factor and last year received the Elizabeth Blackwell award of the New York Infirmary. Author of "Pathology of the Fetus and the Newborn," Dr. Potter is a consultant to the Armed Forces Institute of Pathology, Washington, D. C., and the Chicago Health Department. She is a past president of the Chicago Pathological Society.

University News.—The University of Illinois College of Medicine announces that Drs. Louis Lams and Raymond E. Robertson have received nonsalaried appointments as clinical assistant professors of psychiatry and that Dr. M. Jeanne Spurlock will serve in the same capacity on four-fifths time. Dr. Lams will assist in the teaching program of residents and senior clerks. Dr. Robertson recently was appointed acting superintendent of the Institute for Juvenile Research, replacing Dr. Julius B. Richmond who resigned. Dr. Spurlock will work as a child psychiatrist on the children's psychosomatic ward and will assist in the teaching of medical students, residents, and ancillary personnel.——Dr. Frank J. Fara, professor of obstetrics, Cook County Graduate School of Medicine, has been appointed clinical assistant professor on the nonsalaried staff of the department of obstetrics and gynecology at the University of Illinois College of Medicine. Dr. Fara, who was associated with Northwestern University Medical School, is a member of the attending staff at Cook County Hospital, and head of the department of obstetrics and gynecology at the Hospital of St. Anthony de Padua.

KANSAS

University News.—Dr. Mahlon H. Delp, professor of medicine, was elected by the recently graduated senior class of the University of Kansas School of Medicine, Kansas City, as the faculty member who in their opinion had been most devoted to his primary objective as a teacher.

Awards to Seniors and Residents.—At the annual medical staff night of the department of medicine, University of Kansas School of Medicine, Kansas City, to honor visiting staff physicians, medical students, and residents the following awards were presented:

A clock with an engraved brass plaque inset to Dr. Jesse D. Rising as the visiting physician who had spent the greatest amount of time in the senior medicine outpatient clinic during the previous five months.
The Porter award of $300 to Lamont Gaston, graduating senior, Lawrence, for the best four year grade average in medical school.
The Marcell award of a medicine bag and $100 to graduating senior Dale Griswold, Newton, for the highest total grades on the junior and senior comprehensive written examinations in medicine.
The Marcell award of $100 to Floyd W. Baker, Leavenworth, the graduating senior making the greatest improvement between the junior and senior years in medicine.
The Guffey prize of $100 for the graduating senior doing the best work in the department of obstetrics and gynecology, to Donald N. Kuenzi, Helena, Mo.
The Guffey prize of $250 to K.U.M.C. resident or intern doing the best work in the department of obstetrics and gynecology, to Dr. William J. Spanos, St. Louis.
The Ginsburg award of $100 for the outstanding record in the sophomore physical diagnosis course, to Daniel Lester Azarnoff, Lawrence.

KENTUCKY

State Medical Election.—At the annual meeting of the Kentucky State Medical Association in Louisville, Dr. J. Duffy Hancock, Louisville, assumed the presidency, and Dr. Clyde C. Sparks, Ashland, was chosen president-elect.

Posthumous Award to Dr. Barr.—For the first time in Kentucky State Medical Association history, the distinguished service medal of the association was conferred on a deceased

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Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

member (Dr. R. Haynes Barr, Owensboro, who died May 5, while serving as president of the association). Dr. E. Bruce Underwood, Louisville, secretary, presented the award to Mrs. Barr at the annual dinner, Sept. 24.

MARYLAND

Dr. Follis Goes to Utah.—Dr. Richard H. Follis Jr., formerly associate professor of pathology at Johns Hopkins University School of Medicine, Baltimore, has been appointed professor and head of the department of pathology at the University of Utah College of Medicine, Salt Lake City. He will serve also as pathologist to the Salt Lake County General Hospital and as consultant in pathology to the Veterans Administration hospitals in Salt Lake City.

Symposium on Tuberculosis.—At the annual meeting of the Baltimore City Medical Society, Dec. 18, Dr. Ross L. McLean, Baltimore, will serve as moderator for a symposium on tuberculosis, with the following participants: Col. Carl W. Tempel (MC), chief, medical service, Fitzsimons Army Hospital, Denver; Dr. J. Maxwell Chamberlain, associate professor of surgery, Columbia University College of Physicians and Surgeons, New York; Mr. William Steenken Jr., Trudeau Laboratory, Trudeau, N. Y.; and Dr. Oscar Auerbach, chief, laboratory service, Veterans Administration Hospital, East Orange, N. J.

MINNESOTA

Dr. Krusen Honored.—Dr. Frank Hammond Krusen, head of the section on physical medicine, Mayo Clinic, Rochester, since 1935 and professor of medicine, Mayo Foundation, who recently received from Gov. C. Elmer Anderson the state's award of merit for his contributions to employment through rehabilitation of physically handicapped persons, has been named to receive the second annual physician's award by the President's Committee on Employment of the Physically Handicapped. Chairman of the A. M. A. Council on Physical Medicine and Rehabilitation, a past president of the American Congress of Physical Medicine, and councilor of the National Association for Crippled Children since 1947, Dr. Krusen serves on the advisory board of the Minnesota Rehabilitation Association and is the author of books and articles in the field of physical medicine. In 1944 he was chairman of the Baruch Committee on War and Post-War Physical Rehabilitation. The award will be presented during the annual meeting of the Congress on Industrial Health at Louisville, Feb. 23-24, 1954.

MONTANA

State Medical Election.—At the annual meeting of the Montana Medical Association in Billings, Dr. Sidney C. Pratt, Miles City, was elected president, Dr. John J. Malee, Anaconda, president-elect, Dr. George W. Setzer, Malta, vice-president, Dr. Theodore R. Vye, Billings, secretary-treasurer, Dr. Park W. Willis Jr., Hamilton, assistant secretary-treasurer, and Drs. James M. Flinn, Helena, and Francis L. McPhail, Great Falls, executive committee members.

Personal.—Dr. Maurice A. Shillington, a past president of the Montana Medical Association, has been elected to honorary membership in the association. Dr. Shillington recently retired from the active practice of medicine in Glendive and moved to Minnesota.——Dr. Stuart O. Olson, Glendive, was recently appointed a member of the state board of medical examiners and a member of the governor's committee on mental health to succeed Dr. Shillington, who resigned on retirement.——Dr. William F. Morrison, Missoula, has been appointed to the state board of health to succeed Dr. Edward S. Murphy, Missoula, who resigned.

Memorial Carillon.—Dr. William F. Cogswell, Helena, executive officer and secretary of the state board of health from 1912 to 1946, was honored in October at the dedication of the 47-bell memorial carillon in a tower on the campus of Montana State University, Missoula, when a carillon bell was dedicated in his name in recognition of 34 years of public health service to Montana. The Cogswell bell plaque at the base of the tower reads: "Presented by William O. Cogswell '23, Edward B. Cogswell, and Andrew C. Cogswell '27 in honor of their father, Dr. William F. Cogswell, pioneer in Montana public health and secretary of the State Board of Health 1912-1946."

NEW YORK

Warning Against Obsolete Refrigerators.—The state health department has issued a warning that a number of obsolete water-cooled gas refrigerators that had been condemned for use in New York City have been sold or transferred for installation in apartment houses located outside the city limits. About 50,000 of the water-cooled gas refrigerators in New York City have already been abandoned. In all, there were about 200,000 of the appliances in the city, all 25 or more years old. The department also warned that a considerable number of deaths occur each year throughout the country because of fumes from improperly adjusted gas burners operating in poorly ventilated rooms.

The 192 Million Dollar Hospital Program.—With the breaking of ground for the 552-bed Coney Island Municipal Hospital, all large projects of the 192 million dollar postwar program of the city department of hospitals will be either under construction or already operating. The latter group includes the 1,920-bed Bird S. Coler Memorial Hospital and Home on Welfare Island (20 million dollars); the Tuberculosis Hospital of the Kings County Hospital Center, a 716-bed unit (8 million dollars); the James Ewing Hospital, a 275-bed cancer unit affiliated with Memorial Center for Cancer and Allied Diseases (6 million dollars); and the Francis Delafield Hospital, a 307-bed cancer facility affiliated with Columbia-Presbyterian Medical Center (9 million dollars). Nearing completion and scheduled for opening within the next year are a 236-bed addition to Queens General Hospital, Jamaica (6 million dollars) and the 511-bed Nathan B. Van Etten Hospital, a tuberculosis unit of the new Bronx Municipal Hospital Center (approximately 15 million dollars). Under construction are the Abraham Jacobi Hospital, an 898-bed general care unit of the Bronx Municipal Hospital Center, which, with the auxiliary buildings of the center, will cost 23 million dollars; the 1,050-bed East Harlem General Hospital (replacement of the old Metropolitan Hospital on Welfare Island), which will cost 26 million dollars; the 961-bed Elmhurst General Hospital (replacement of the old New York City Hospital on Welfare Island), which will cost 26 million dollars; and the new Bellevue Nurses' Residence and School, which will accommodate 900 nurses and student nurses, and cost 15 million dollars. The remainder of the 192 million dollars is being spent on a program of modernization of existing facilities. The new Coney Island Municipal Hospital, a 10-story building, which will occupy a 10-acre site adjacent to the present hospital, will be a general hospital but will provide tuberculosis and contagious disease services. The present Coney Island, constructed in 1910, will be converted into a 279-bed facility to care for the chronically ill. When all construction is completed, the hospital will have a total capacity of 831 beds and a new outpatient department designed to accommodate more than 600 clinic patients daily. The 15 million dollar cost includes renovation of the present hospital. Among the speakers at the ground-breaking were Drs. John E. Hammett, president of the medical board of the hospital, and Louis Berger, president of the Medical Society of the County of Kings. Dr. Marcus D. Kogel, commissioner of hospitals, presided.

New York City

Tumor Clinic.—Dr. Herbert C. Maier, director of surgery, Lenox Hill Hospital, will present "Cancer of the Lung" at the tumor clinic conference at Harlem Hospital (Women's Pavilion, Main Floor, 137th St. Entrance), Dec. 16, 10:45 a. m.

Harvey Lecture.—Dr. Paul Klemperer, professor of pathology, Columbia University College of Physicians and Surgeons, will deliver the fourth Harvey lecture, "The Significance of the Intermediate Substances of the Connective Tissue in Human Disease," of the 1953-1954 series at the New York Academy of Medicine, Dec. 17.

Geriatric Clinic.—A clinic specializing in the ills of the aged was recently dedicated at Beth Israel Hospital, 17th St. near 1st Ave. The clinic is named after Mr. Charles H. Silver, now serving his sixth consecutive term as president of the hospital. Hon. Alben W. Barkley dedicated the six story granite and brick structure. Msgr. James J. Lynch, director of Catholic Charities, who represented Francis Cardinal Spellman, gave a $10,000 check from the Alfred E. Smith Memorial Foundation, and Mayor Impellitteri reviewed the history of Beth Israel since its establishment by a group of immigrants 63 years ago.

Dr. Jaffee Honored.—Dr. Henry L. Jaffe, director of laboratories, Hospital for Joint Diseases, who recently conducted clinicopathologic conferences on skeletal diseases, sponsored by the British Post-Graduate Medical Federation (University of London) and the Institute of Orthopaedics of London, was made an honorary member of the Royal Society of Medicine. He also delivered a Lord Moynihan lecture before the Royal College of Surgeons and conducted a clinicopathologic conference at the Royal National Orthopaedic Hospital, and at Oxford he lectured at the Nuffield Orthopaedic Center. His tour included Manchester, Liverpool, and Glasgow, where he conducted a clinicopathologic conference at the teaching hospitals connected with the medical schools. The tour terminated in Belfast, Ireland, where he held a slide seminar before the Pathologic Society of Great Britain and Ireland.

NORTH CAROLINA

Personal.—Dr. Calvin C. Applewhite, Raleigh, director of the State Board of Health's Division of Local Health Administration, was honored by the North Carolina Public Health Association at its annual meeting at Nags Head, when he received the Carl V. Reynolds award for distinguished service in the field of public health.

Society-University Project.—A new type of medical continuation education project was recently inaugurated through a cooperative program sponsored by the Rowan-Davie Counties Medical Society and the University of North Carolina School of Medicine, Chapel Hill. Under the plan a member of the staff of the medical school selected by the program committee of the society will visit the Rowan Memorial Hospital, Salisbury, once a month to participate in locally planned medical activities. He will take part in such activities as consultations, clinical conferences, rounds, and reviews of deaths and will give an informal discussion on some selected topic. This type of postgraduate program, related to the local problems and situation, involves extensive participation by local physicians.

OHIO

Dr. Goldblatt Returns to Cleveland.—Dr. Harry Goldblatt, who in 1946 left Cleveland to develop and direct the Institute for Medical Research at the Cedars of Lebanon Hospital, Los Angeles, has returned as director of laboratories at Mount Sinai Hospital. During the past seven years Dr. Goldblatt has conducted investigations into the humoral mechanisms of the production of high blood pressure, has continued the experimental studies of liver disease which were initiated some 15 years ago in Cleveland in cooperation with Dr. Paul Gyorgy, Philadelphia, and has furthered the studies on the experimental production of cancer, originally undertaken in 1930 at the Institute of Pathology of Western Reserve University School of Medicine, Cleveland. Dr. Goldblatt has been affiliated with the Lakeside Hospital, Cleveland, Lister Institute of Preventive Medicine, London, England, the University of Colorado School of Medicine, Denver, Western Reserve University School of Medicine, Cleveland, and the University of Southern California School of Medicine, Los Angeles. He is the recipient of the John Phillips award, the Alvarenga award, the annual scientific award of Phi Lambda Kappa, the Ward Burdick award, the New Orleans trophy by Zeta Beta Tau, the Charles Eiseman award, and the Charles Mickle fellowship award. During World War I he served as a lieutenant in the medical corps.

OKLAHOMA

Society News.—The Oklahoma Society of Psychiatrists and Neurologists has elected Dr. Alfred A. Hellams, Oklahoma City, president, Dr. Harry Wilkins, Oklahoma City, vice-president, Dr. Charles A. Smith, Oklahoma City, secretary-treasurer, and Dr. Neil B. Kimerer, Oklahoma City, member of the executive committee.

Mental Health Board.—Pursuant to repeal of the old mental health law and enactment of a new one providing for appointment of a board of mental health composed of two physicians, one attorney, and three lay persons, Gov. Johnston Murray has appointed Drs. Maude M. Masterson, Oklahoma City, and Joe E. Tyler, Tulsa, to represent the medical profession. The appointments were made from a list of names submitted by the council of the Oklahoma State Medical Association.

Fifty Year Club.—Dr. Charles E. Calhoun, Sand Springs, recently received a gold pin commemorating the completion of 50 years in the active practice of medicine. The presentation was made by Dr. John E. McDonald, Tulsa, president of the Oklahoma State Medical Association. Dr. Calhoun practiced at Shawnee for several years, in 1910 moved to Sand Springs, and during World War I served as an officer in the U. S. Army Medical Corps.——Lifetime membership and a service recognition plaque in recognition of more than 50 years of medical service were recently presented to Dr. John L. Lehew, Pawnee, in a ceremony attended by Dr. Lehew's three sons, Dr. Elton W. Lehew and Dr. John L. Lehew Jr., Guthrie, and Clifford H. Lehew, D.D.S., Pawnee.——The Tillman County Medical Association recently bestowed on Dr. George A. Comp, Manitou, a 50 year gold pin. Dr. Comp, who after graduation joined his father, a physician and surgeon in Edmond, Okla., came to Manitou in 1906. He was recently honored by Manitou citizens by being named the community's most useful citizen.

TENNESSEE

University News.—Dr. Elmer E. Pautler, formerly an instructor of pathology at the Bowman Gray School of Medicine, Winston-Salem, N. C., has joined the staff of the University of Tennessee Medical Units, Memphis, as assistant professor of pathology and bacteriology.——Dr. Conley Hall Sanford, who has been affiliated with the University of Tennessee College of Medicine, Memphis, since 1920, and since 1939 has been chief of its division of medicine and chief of staff of the John Gaston Hospital, has retired from these positions but will continue as professor of medicine and as a private practitioner. Dr. Sanford is a charter member of the local chapter of Alpha Omega Alpha and of the American Board of Internal Medicine.——Dr. Phillip C. Schreier has been appointed acting chief of the division of obstetrics and gynecology, University of Tennessee College of Medicine and the John Gaston Hospital, Memphis, to replace Dr. Frank E. Whitacre, who recently resigned to join the staff of Vanderbilt University College of Medicine, Nashville.

Craig-Brown Memorial Fund Perpetuated.—Classmates of Drs. William Riney Craig and Clyde Hulee Brown, who lost their lives in World War II, will be listed perpetually among the annual contributors to the living endowment of Vanderbilt University, Nashville. Dr. Craig, who died on a Japanese prison ship in January, 1945, was commissioned a medical officer in the regular U. S. Army on graduation, was chief of the surgical service at Sternberg General Hospital in Manila at the time of the Japanese attack, and was executive officer of a hospital on Bataan until captured and imprisoned at Cabanatuan, where he served as medical officer for his fellow prisoners for 2½ years. Dr. Brown, who was killed by an aerial bomb April 12, 1945, had practiced as a specialist in internal medicine in New York City from 1928 until 1941, when he was commissioned in the Naval Reserve. At the time of his death he was the commander in charge of a mobile hospital unit attached to the Third Amphibious Corps, U. S. Marines, on Okinawa. The original purpose of the scholarship fund created by their classmates for the education of Dr. Craig's daughter and Dr. Brown's son having been fulfilled, the creators of the fund have changed its name to the William Riney Craig and Clyde Hulce Brown memorial fund, increased its amount in order to qualify as a permanent interest-paying fund in Vanderbilt's endowment, and directed that the annual income henceforth be credited to the living endowment.

VERMONT

Fifty Year Club.—The following physicians were recently elected to the 50 Year Club of the Vermont State Medical Society: Edwin A. Colton, Montpelier; Charles F. Dalton, Burlington; Albert C. Eastman, Woodstock; Fred A. Edmunds, Bethel; and Thomas J. Hagan, Springfield.

VIRGINIA

University News.—Dr. Edwin P. Lehman, chairman of the department of surgery and gynecology, has retired after 25 years as a faculty member of the University of Virginia School of Medicine, Charlottesville.

Personal.—Dr. Ralph G. Beachley, director of public health in Arlington County, was recently elected president of the Metropolitan-Washington Tuberculosis Conference, a group sponsored by the tuberculosis associations of the District of Columbia, Maryland, and Virginia.——Dr. Arnold F. Strauss, pathologist of De Paul Hospital, Norfolk, was honored during his recent visit to Peru by being made a corresponding member of the Peruvian Society for Pathology.

ALASKA

Heart Association Organized.—After the visit to Alaska this summer of Mr. Robert V. Titus, regional director of the American Heart Association, Inc., district chapters of the voluntary agency were organized in Fairbanks, Anchorage, Juneau, and Ketchikan. It is proposed that the executive committees of the four districts will serve as the territorial agency of the organization.

Accidents Chief Cause of Death.—Accidents were the chief cause of death in Alaska in 1952 for the second successive year. Accidents of all types accounted for 20.8%, or 262 of the 1,261 deaths in the territory last year, according to provisional data received by the Bureau of Vital Statistics. Heart diseases were in second place, causing 217 deaths, or 17.2%. Tuberculosis took the third highest toll of lives, causing 13.6%, or 172 of the total deaths. Though the 1952 data are still considered provisional, no change in the order of the final figures for the year is anticipated, according to the director of the Bureau of Vital Statistics, who said there are some known airplane accident deaths not yet officially reported which will later raise the total death by accident figure. Indication of a drop in the tuberculosis deaths in Alaska is attributed to the intensive tuberculosis control work during the past six years, in which cases were found earlier and more hospital beds were available.

GENERAL

National Society for the Prevention of Blindness.—This organization will hold its membership meeting Dec. 17, 4 p. m., in the Waldorf-Astoria Hotel, New York. The speaker will be Dr. Arnall Patz, research assistant in ophthalmology, Georgetown University School of Medicine, Washington, D. C., whose subject will be "Retrolental Fibroplasia." The society will hold its annual meeting in St. Louis, at the Hotel Jefferson, March 10-12, 1954.

Sedgwick Memorial Award.—At its annual meeting in New York the American Public Health Association presented its highest annual award, the Sedgwick memorial medal for distinguished service in public health to Carl E. Buck, Dr.P.H., professor of public health practice at the University of Michigan School of Public Health, Ann Arbor. Dr. Buck, a member of the Typhus Fever Commission to the Balkans in 1915 and 1916, served in the U. S. Army Air Service during World War I and later became a member of the staff of the International Health Board of the Rockefeller Foundation, doing malaria work in the southern states.

Trudeau Society Invites Papers.—The American Trudeau Society invites submission of papers for the 1954 annual meeting, Atlantic City, N. J., May 17-21. Abstracts in duplicate must be sent before Jan. 1, 1954, to Dr. Julius L. Wilson, chairman of the Medical Sessions Committee, Henry Phipps Institute, 7th and Lombard Sts., Philadelphia 47. Abstracts should be limited to a 300 word summary including important data and conclusions. Subjects for presentation may include all scientific aspects of tuberculosis and nontuberculous respiratory and cardiopulmonary disease as well as the results of investigative work bearing on these subjects.

Pediatric Residency Fellowships.—The American Academy of Pediatrics will grant 12 or more fellowships for pediatric residents for a period of six months to one year. These fellowships, created to enable young physicians in financial need to complete their pediatric training, carry a stipend of $500-$1,000. The fellowships, made possible by a grant to the academy from Mead Johnson & Company, will be granted as of July 1, 1954. Deadline for receipt of applications will be March 1. Further information may be had from Dr. James G. Hughes, Le Bonheur Children's Hospital, Adams and Dunlap, Memphis 5, or the American Academy of Pediatrics, 610 Church St., Evanston, Ill.

Dr. Mountin Memorial Volume.—A national committee is sponsoring the publication of a memorial volume of the writings of the late Dr. Joseph W. Mountin, "intended to reflect Dr. Mountin's diversity of interests, breadth of vision, and the pioneering nature of his work in many of the branches of public health work" and to serve "as a basic document for students and practitioners in public health." Dr. Leonard A. Scheele, Surgeon General, U. S. Public Health Service, is honorary chairman of the committee. Dr. Thomas Parran, Pittsburgh, and Dr. Joseph O. Dean, Washington, D. C., are co-chairmen, and C. Mayhew Derryberry, Ph.D., Washington, D. C., is serving as executive secretary. Information may be secured from and contributions sent to Joseph W. Mountin Memorial, P. O. Box 1610, Washington, D. C.

Libraries Association Translations Pool.—The Special Libraries Association, in cooperation with the John Crerar Library, Chicago, has created a new translations service in recognition of the increasing need for information regarding existing translations and for the availability of inexpensive copies. The association has deposited in the Crerar library, 1,300 translations which form the nucleus of the pool. Because the usefulness of the pool will be in direct proportion to the number of translations available, contributions of good copies of complete translations are solicited from government agencies, technical societies, universities, industries, and individuals. If copies are not available for deposit, they may be loaned to the Crerar library for a short time, with permission to microfilm or, alternatively, a 35 mm. microfilm may be deposited. Permission to lend or to reproduce in photocopy is a condition of deposit. Photoprint or microfilm copies of the translations listed may be obtained at the regular rates charged by the Crerar library. Currently, these rates are $1.40 for 10 pages or fraction thereof of photoprint, or 50 pages or fraction thereof of microfilm, plus a service charge of $1 for each translation (payable in advance). Discounts of 3.5-14% are allowed on advance purchase of photoduplication coupons. A price list will be sent on request.

Society News.—At the annual meeting of the **American Society of Anesthesiologists** in Seattle, Dr. Brant B. Sankey, Cleveland, was selected as president-elect, and Drs. Daniel C. Moore, Seattle, and Paul H. Lorhan, Kansas City, Kan., were elected as first and second vice-presidents. Dr. J. Earl

Remlinger Jr., Evanston, Ill., and Dr. Moses H. Krakow, New York, were reelected secretary and treasurer, respectively.—— **The American Academy of Ophthalmology and Otolaryngology** announces that, by special action of the council voted by mail, Dr. Walter H. Theobald, Chicago, president-elect, has been named to succeed the late Dr. John J. Shea, Memphis, who, elected at the 1952 annual meeting, died a few weeks later. Dr. Algernon B. Reese, New York, who was chosen president-elect of the academy at the annual meeting in Chicago, will assume the presidency in January, 1955. Other officers elected at the meeting include Drs. Francis H. Adler, Philadelphia, Theodore E. Walsh, St. Louis, and Dohrmann K. Pischel, San Francisco, vice-presidents, Dr. Lawrence R. Boies, Minneapolis, secretary for otolaryngology, Dr. Kenneth L. Roper, Chicago, secretary for ophthalmology, Dr. Albert D. Ruedemann, Detroit, secretary for instruction in ophthalmology, Dr. Dean M. Lierle, Iowa City, secretary for instruction in otolaryngology and maxillofacial surgery, Dr. Erling W. Hansen, secretary for public relations, and Dr. Daniel Snydacker, Chicago, secretary for home study courses.

FOREIGN

Meeting on Rheumatology.—The Rome Center of Rheumatology and the Italian Society of Rheumatology announce that the second Roman Rheumatological Days will be held in Rome, Feb. 13-14, 1954. Those wishing to submit reports must send the title of the paper no later than Dec. 31 to the Segreteria della Giornata, % Instituto di Semeiotica Medica, Universitá di Roma, and must submit a 10 line, typewritten abstract of the report no later than Jan. 15.

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

1954 Annual Meeting, San Francisco, June 21-25.

1954 Clinical Meeting, Miami, Florida, Nov. 30-Dec. 3.

1955 Annual Meeting, Atlantic City, N. J., June 6-10.

1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

American Academy of Obstetrics and Gynecology, Netherland Plaza Hotel, Cincinnati, Dec. 14-16. Dr. C. Paul Hodgkinson, 116 South Michigan Blvd., Chicago 3, Secretary.

American Federation for Clinical Research:

- Eastern Section, Amphitheater, Children's Medical Center, Boston, Jan. 4. Dr. Walter Judson, Evans Memorial Hospital, Boston, Chairman.
- Southern Section, Jung Hotel, New Orleans, Jan. 29. Dr. William Parson, University of Virginia School of Medicine, Charlottesville, Va., Chairman.
- Western Section, Auditorium, University of Oregon Medical School, Portland, Ore., Jan. 28. Dr. I. S. Edelman, University of California Medical Center, San Francisco Hospital, San Francisco 15, Secretary.

American Laryngological, Rhinological and Otological Society:

- Eastern Section, Waldorf-Astoria, New York, Jan. 8. Dr. Francis W. Davison, Danville, Pa., Chairman.
- Middle Section, Park Plaza Hotel, St. Louis, Jan. 18. Dr. Ralph J. McQuiston, 20 North Meridian St., Indianapolis 4, Chairman.
- Southern Section, Brown Hotel, Louisville, Ky., Jan. 16. Dr. Lester A. Brown, 490 Peachtree St., N.E., Atlanta 3, Ga., Chairman.

American Society for Surgery of the Hand, Palmer House, Chicago, Jan. 22. Dr. George V. Webster, 960 East Green St., Pasadena 1, Calif., Secretary.

Northwest Society for Clinical Research, Portland, Ore., Jan. 28. Dr. Arthur L. Rogers, 1216 S.W. Yamhill St., Portland, Ore., Secretary.

Radiological Society of North America, Palmer House, Chicago, Dec. 13-18. Dr. Donald S. Childs, 713 East Genesee St., Syracuse 2, N. Y., Secretary.

Regional Meetings, American College of Physicians:

- Eastern Pennsylvania, Philadelphia, Jan. 15. Dr. Thomas M. McMillan, 330 S. Ninth St., Philadelphia 7, Governor.

Western Society for Clinical Research, Portland, Ore., Jan. 29-30. Dr. Herbert N. Hultgren, Stanford Hospital, San Francisco 15, Secretary.

FOREIGN

Association of Surgeons of Great Britain and Ireland, Leeds, England, May 13-15, 1954. Dr. Henry W. S. Wright, 45 Lincoln's Inn Fields, London W.C.2, England, Honorary Secretary.

British Medical Association, Glasgow, Scotland, July 1-9, 1954. Dr. A. Macrae, B.M.A. House, Tavistock Square, London, W.C.1, England, Secretary.

Canadian Medical Association, Vancouver, B. C., Canada, June 18-22, 1954. Dr. T. C. Routley, 135 St. Clair Ave. W., Toronto 5, Ont., Canada, General Secretary.

Conference of International Union Against Tuberculosis, Madrid, Spain, Sept. 26-Oct. 2, 1954. Secretariat, Escuela de Tisiologia, Ciudad Universitaria, Madrid, Spain.

Congress of International Association for the Prevention of Blindness, New York, N. Y., U. S. A., Sept. 12-17, 1954. Professor Franceschetti, 2 Avenue Mirmot, Geneva, Switzerland, Secretary-General.

Congress of International Society of Surgery, Paris, France, May 21-22, 1954. Dr. L. Dejardin, 141, rue Belliard, Brussels, Belgium, General Secretary.

French Medical Congress of French Speaking Countries in the Caribbean, Port-au-Prince, Haiti, Dec. 15-21. For information write: Dr. Constant Pierre-Louis, School of Medicine, Port-au-Prince, Haiti.

Health Congress of the Royal Sanitary Institute, Scarborough, England, April 27-30. Mr. P. Arthur Wells, Royal Sanitary Institute, 90 Buckingham Palace Road, London, S.W.1, England, Secretary.

International Cancer Congress, Sao Paulo, Brazil, July 23-29, 1954. Prof. A. Prudente, 171 rua Benjamin Constante, Sao Paulo, Brazil, President.

International Conference on Thrombosis and Embolism, Basle, Switzerland, July 15-19, 1954. Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, Switzerland, Hon. Secretary.

International Congress on Child Psychiatry, University of Toronto, Toronto, Ontario, Canada, Aug. 13-14, 1954. Miss Helen Speyer, International Association for Child Psychiatry, 1790 Broadway, New York 19, New York, U. S. A., Executive Officer.

International Congress of Clinical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Dr. Robert A Moore, Washington University School of Medicine, St. Louis 10, Missouri, U. S. A., Chairman, Committee on Arrangements.

International Congress on Diseases of the Chest, Barcelona, Spain, Oct. 4-8, 1954 Mr. Murray Kornfeld, 112 East Chestnut St., Chicago 11, Illinois, Executive Secretary.

International Congress on Group Psychotherapy, Toronto, Ont., Canada, Aug. 12-14, 1954. Dr. J. L. Moreno, Room 327, 101 Park Ave., New York 17, N. Y., U. S. A., Director of Organizing Committee.

International Congress of Hematology, Paris, Sept. 6-11, 1954. Dr. Jean Bernard, 86 rue d'Assas, Paris 6e, France, Secretary.

International Congress of the History of Medicine, Rome and Salerno, Italy, Sept. 13-20, 1954. For information write: Segreteria XIV Congresso Internazionale di Storia della Medicina, Instituto di Storia della Medicine, Citta Universitaria, Rome, Italy.

International Congress of Hydroclimatism and Thalassotherapy, Dubrovnik, Yugoslavia, May 8-16, 1954. Prof. C. Plavsic, Zeleni venac 1, Belgrade, Yugoslavia, Secretary General.

International Congress of Industrial Medicine, Naples, Italy, Sept. 13-19, 1954. Professor Scipione Caccuri, Director, Institute of Industrial Medicine Policlinico, Naples, Italy, Chairman, Organizing Committee.

International Congress of Internal Medicine, Stockholm, Sweden, Sept. 15-18, 1954. Professor Anders Kristenson, Karolinska Sjukhuset, Stockholm 60, Sweden, Secretary-General.

International Congress of International College of Surgeons, Sao Paulo, Brazil, April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake Shore Drive, Chicago, Illinois, U. S. A., Secretary-General.

International Congress on Mental Health, University of Toronto, Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write: Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

International Congress of Nutrition, Amsterdam, Netherlands, Sept. 14-18, 1954. For information write: Dr. M. van Eekelen, Centraal Instituut voor Voedingsonderzoek T.N.O., 61 Catharynesingel, Utrecht, Netherlands.

International Congress on Obstetrics and Gynecology, Geneva, Switzerland, July 26-31, 1954. Dr. H. de Watteville, Maternité Hôpital Cantonal, Geneva, Switzerland, President.

International Congress of Ophthalmology, University of Montreal and McGill University, Montreal, Canada, Sept. 10-11, 1954, and Waldorf-Astoria, New York, N. Y., U. S. A., Sept. 12-17, 1954. Dr. William L. Benedict, 100 First Avenue Building, Rochester, Minnesota, U. S. A., Secretary-General.

International Congress of Orthopedic Surgery and Traumatology, Berne, Switzerland, Aug. 30-Sept. 3, 1954. For information write: Professor M. Dubois, Isle-Hospital, Berne, Switzerland.

International Congress of Psychology, Montreal, Canada, June 7-12, 1954. For information write: Prof. H. S. Langfeld, International Union of Scientific Psychology, Eno Hall, Princeton University, Princeton, N. J., U. S. A.

International Congress for Psychotherapy, Zurich, Switzerland, July 21-24, 1954. Dr. H. K. Fierz, Theaterstrasse 12, Zurich 1, Switzerland, Secretary General.

International Gerontological Congress, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

International Poliomyelitis Congress, Rome, Italy, Sept. 6-10, 1954. Mr. Stanley E. Henwood, 120 Broadway, New York 5, N. Y., U. S. A., Executive Secretary.

International Society of Blood Transfusion, Paris, France, Sept. 12-19, 1954. For information write: Colonel Julliard, Societe Internationale de Transfusion Sanguine, 53 Boulevard Diderot, Paris 12^e, France.

International Society for Cell Biology, Leiden, Netherlands, Sept. 2-9, 1954. Professor Peter J. Gaillard, University of Leiden, Leiden, Netherlands, Secretary.

International Society of Geographical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Professor Fred C. Roulet, Hebelstrasse 24, Basle, Switzerland, Secretary-General.

Journees Medicales, Paris, France, April 21-25, 1954. For information write: Secretariat of the Journees, 12, rue Pierre-Geofroix, Colombes (Seine) France.

Latin American Congress of Otorhinolaryngology, Caracas, Venezuela, Feb. 21-25, 1954. Dr. Victorino Marquez Reveron, Centro, Medico, Caracas, Venezuela, Secretary-General.

Latin American Congress of Physical Medicine, Medellin, Columbia, South America, Feb. 15-20, 1954. Dr. Cassius Lopez de Victoria, 176 East 71st St., New York 21, N. Y., U. S. A., Executive Director.

Pan American Congress of Otorhinolaryngology and Bronchoesophagology, Mexico, D.F., Mexico, Feb. 28-March 4, 1954. Dr. Pedro Hernandez Gonzalo, 8 No. 358, Vedado, Havana, Cuba, General Secretary.

Pan American Medical Association, International Medical Cruise Congress, S. S. Nieuw Amsterdam, Jan. 6-22, 1954. Dr. Joseph J. Eller, 745 Fifth Avenue, New York 22, N. Y., U. S. A., Executive Director.

Pan-Pacific Surgical Congress, Honolulu, Hawaii, Oct. 7-18, 1954. Dr. F. J. Pinkerton, Suite 7, Young Bldg., Honolulu 13, Hawaii, Director General.

Sectional Meeting, American College of Surgeons, London, England, May 17-19, 1954. Dr. Michael L. Mason, 40 East Erie St., Chicago 11, Ill., U. S. A., Secretary.

South American Congress of Angiology, Sao Paulo, Brazil, July 1954. For information write: Dr. Rubens Carlos Mayall, Rua Senador Vergueiro 73, Rio de Janeiro, Brazil, S. A.

World Congress of Cardiology, Washington, D. C., and Bethesda, Md., U. S. A., Sept. 12-17, 1954. Dr. L. W. Gorham, 44 East 23d St., New York 10, N. Y., U. S. A., Secretary-General.

World Congress of International Society for the Welfare of Cripples, The Hague, Netherlands, Sept. 13-17, 1954. For information write: D. C. Schaap, Centrale Vereniging, Apeldoorschweg 51, Arnhem, Netherlands.

World Federation of Occupational Therapists, Edinburgh, Scotland, August 17, 1954.

World Medical Association, Rome, Italy, Sept. 26-Oct. 2, 1954. Dr. Louis H. Bauer, 345 East 46th St., New York 17, N. Y., U. S. A., Secretary-General.

EXAMINATIONS AND LICENSURE

BOARDS OF MEDICAL EXAMINERS

Alabama: *Examination.* Montgomery, June 22-24, 1954. Sec., Dr. D. G. Gill, 537 Dexter Ave., Montgomery.

Colorado:* *Examination.* Denver, Dec. 15-16. Final date for filing application was Nov. 14. *Endorsement.* Denver, Jan. 12. Final date for filing application is Dec. 12. Executive Secretary, Miss Beulah H. Hudgens, 831 Republic Bldg., Denver 2.

Delaware: Dover, Jan. 12-14, 1954. Sec., Dr. Joseph S. McDaniel, 229 South State St., Dover.

District of Columbia:* *Reciprocity.* Washington, Dec. 14. Sec., Dr. Daniel L. Seckinger, 1740 Massachusetts Ave., N.W., Washington.

Guam: The Commission on Licensure will meet whenever a candidate appears or submits his credentials. Director of Medical Services, Guam Memorial Hospital, Agana.

Hawaii: Honolulu, Jan. 11-14. *Examination.* Sec., Dr. I. L. Tilden, 1020 Kapiolani St., Honolulu.

Idaho: Boise, Jan. 11-13, 1954. Executive Secretary, Mr. Armand L. Bird, 364 Sonna Bldg., Boise.

Illinois: *Examination and Reciprocity.* Chicago, Jan. 26-28. Supt. of Registration, Mr. Fredric B. Selcke, Capitol Bldg., Springfield.

Indiana: *Examination.* Indianapolis, June 16-18. Exec. Sec., Miss Ruth V. Kirk, 538 K of P Bldg., Indianapolis.

Massachusetts: *Examination.* Boston, Jan. 12-15. Sec., Dr. Robert C. Cochrane, Room 37, State House, Boston 33.

Michigan:* *Examination.* Detroit and Ann Arbor, June 1954. Sec., Dr. J. Earl McIntyre, 202-4 Hollister Bldg., Lansing 8.

Mississippi: *Reciprocity.* Jackson, December. Assistant Secretary, Dr. R. Whitfield, Old Capitol, Jackson 113.

Montana: *Reciprocity.* Helena, April 5. *Examination.* Helena, April 6-7. Sec., Dr. S. A. Cooney, 214 Power Block, Helena.

Nebraska:* *Examination.* Omaha, June 1954. Director, Mr. Husted K. Watson, 1009 State Capitol Bldg., Lincoln.

Nevada:* *Examination and Reciprocity.* Reno, Jan. 6. Sec., Dr. George H. Ross, 112 Curry St., Carson City.

New Hampshire: *Examination and Reciprocity.* Concord, March 10. Sec., Dr. John S. Wheeler, 107 State House, Concord.

New Mexico:* *Examination and Reciprocity.* Santa Fe, April 12-13. Sec., Dr. R. C. Derbyshire, 227 E. Palace Ave., Santa Fe.

New York: *Examination.* Albany, Buffalo, Syracuse and New York City, Feb. 16-19. Sec., Dr. Stiles D. Ezell, 23 S. Pearl St., Albany.

North Carolina: *Reciprocity.* Winston-Salem, Jan. 18. Sec., Dr. Joseph J. Combs, 716 Professional Bldg., Raleigh.

North Dakota: *Examination.* Grand Forks, Jan. 6-9, 1954. *Reciprocity.* Grand Forks, Jan. 9. Sec., Dr. C. J. Glaspel, Grafton.

Ohio: *Examination.* Columbus, Dec. 17-19. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus 15.

Oklahoma:* *Examination.* Oklahoma City, June 9-10. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

Oregon:* *Examination.* Portland, Jan. 4-5. *Reciprocity.* Portland, Jan. 14-16. Sec., Mr. Howard I. Bobbitt, 609 Failing Bldg., Portland.

Pennsylvania: *Examination.* Philadelphia, January 1954. Acting Secretary, Mrs. Margaret G. Steiner, Box 911, Harrisburg.

Rhode Island:* *Examination.* Providence, Jan. 7-8. Admin. of Professional Regulation, Mr. Thomas B. Casey, 366 State Office Bldg., Providence.

South Dakota:* *Examination.* Sioux Falls, Jan. 19-20, 1954. Reciprocity can be obtained at any time between meetings of board. Executive Secretary, Mr. John C. Foster, 300 First National Bank Bldg., Sioux Falls.

Tennessee:* *Examination.* Memphis, Dec. 16-17. Sec., Dr. H. W. Qualls, 1635 Exchange Bldg., Memphis.

Vermont: *Examination.* Burlington, Feb. 1954. Sec., Dr. F. J. Lawliss, Richford.

Washington:* *Examination.* Seattle, Jan. 10-13. *Reciprocity.* Seattle, Jan. 10. Sec., Mr. Edward C. Dohm, Department of Licenses, Olympia.

West Virginia: *Examination and Reciprocity.* Charleston, Jan. 11-13. Sec., Dr. N. H. Dyer, State Office Bldg., Charleston 5.

Wisconsin:* *Examination and Reciprocity.* Madison, Jan. 12-14, 1954. Sec., Dr. A. G. Koehler, 46 Washington Blvd., Oshkosh.

Wyoming: *Oral Examination and Reciprocity.* Cheyenne, Feb. 1. Sec., Dr. Franklin D. Yoder, State Office Bldg., Cheyenne.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Alaska: On application. Juneau or other towns in Territory as decided by Board. *Reciprocity.* On application. Sec., Dr. C. Earl Albrecht, Box 1931, Juneau.

Arizona: *Examination.* Tucson, Dec. 15. Sec., Mr. H. D. Rhodes, University of Arizona, Tucson.

Connecticut: *Examination.* New Haven, Feb. 13. Address: State Board of Healing Arts, 52 Whitney Ave., New Haven 10.

Iowa: *Examination.* Des Moines, Jan. 12. Sec., Dr. Ben H. Peterson, Coe College, Cedar Rapids.

Michigan: *Examination.* Detroit and Ann Arbor, Feb. 12-13. Sec., Mrs. Anne Baker, 410 W. Allegan St., Lansing 15.

Minnesota: *Examination.* Minneapolis, Jan. 5-6. Sec., Dr. Raymond N. Bieter, 105 Millard Hall, Minneapolis 14.

Nevada: *Examination.* Reno, Jan. 5. Sec., Dr. Donald G. Cooney, Box 9005, University of Nevada, Reno.

New Mexico: *Examination.* Santa Fe, Jan. 17. Sec., Miss Marguerite K. Cantrell, Box 1522, Santa Fe.

Oklahoma: *Examination.* Oklahoma City, April 16-17. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

Oregon: *Examination.* Portland, March 6, June 5, Sept. 11 and Dec. 4. Sec., Mr. Charles D. Byrne, State Board of Higher Education, Eugene.

Tennessee: *Examination.* Memphis, Dec. 30-31. Sec., Dr. O. W. Hyman, 874 Union Ave., Memphis 3.

Texas: *Examination.* April 1954. Location determined by number of applicants from different sections of the state. Sec., Brother Raphael Wilson, C.S.C., 407 Perry-Brooke Bldg., Austin.

Washington: *Examination.* Seattle, Jan. 6-7. Sec., Mr. Edward C. Dohm, Department of Licenses, Olympia.

Wisconsin: *Examination.* Madison, April 3. Final date for filing application is March 26. Sec., Dr. W. H. Barber, 621 Ransom St., Ripon.

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*Basic Science Certificate required.

DEATHS

Dillehunt, Richard Benjamin ⊕ Portland, Ore.; born in Decatur, Ill., July 12, 1886; Rush Medical College, Chicago, 1910; dean emeritus at the University of Oregon Medical School, where he was professor of anatomy and assistant dean from 1912 to 1917, dean from 1920 to 1943, and also clinical professor of orthopedic surgery and head of the department; the faculty of the University of Oregon Medical School gave a dinner July 10, 1941, honoring him on his 30th anniversary as a member of the school, and on this occasion a portrait of him was unveiled; specialist certified by the American Board of Orthopaedic Surgery; served as orthopedic surgeon to Base Hospital No. 46 of the American Expeditionary Forces during World War I; honorary member of the Oregon State Medical Society; member of the American Orthopaedic Association, Pacific Coast Surgical Association of which he was president, 1939-1940, North Pacific Surgical Association, and the American Academy of Orthopaedic Surgeons; fellow of the American College of Surgeons; first surgeon-in-chief of the Shriners' Hospital for Crippled Children, which he helped to establish; chief of staff of the Portland Free Dispensary, the forerunner of the present Outpatient Clinic; chief of orthopedic service for Doernbecher Memorial Hospital for Children; consulting orthopedic surgeon to Veterans Administration Hospital and to the State Industrial Accident Commission; affiliated with Multnomah and Emanuel hospitals; in 1935 was named by President Roosevelt as a member of the advisory committee of orthopedic surgeons to Georgia Warm Springs Foundation; on Jan. 6, 1938, was designated Portland's "First Citizen of 1937" by the Portland Realty Board; died Oct. 31, aged 67, of coronary thrombosis.

Stinson, William David ⊕ Memphis, Tenn.; born in Salem, Ill., April 15, 1894; University of Michigan Medical School, Ann Arbor, 1920; associate professor of otology, laryngology, and rhinology at University of Tennessee College of Medicine; specialist certified by the American Board of Otolaryngology; member of the American Academy of Ophthalmology and Otolaryngology and the American Laryngological, Rhinological and Otological Society; in 1951 president of the Memphis and Shelby County Medical Society; for many years secretary of the Tennessee Academy of Ophthalmology and Otolaryngology; served as chief and president of the staff of Baptist Memorial Hospital; died in Nashville Oct. 18, aged 59, of arteriosclerotic heart disease.

Fouche, James Sample ⊕ Columbia, S. C.; born in Ninety-Six, S. C., March 20, 1886; Medical College of the State of South Carolina, Charleston, 1912; also a graduate in pharmacy; past president of the Columbia Medical Society and the Alumni Association of the Medical College of South Carolina; served during World War I; from 1920 to 1932 special chest examiner for the U. S. Veterans Bureau regional office in Columbia and from 1928 to 1932 was the chief medical officer; for many years chief of the outpatient service, Veterans Administration; on the staffs of the Columbia, Baptist, and Providence hospitals; died Oct. 11, aged 67, of aneurysm of the abdominal aorta.

Lobsenz, Herbert ⊕ Hopewell Junction, N. Y.; born in Paterson, N. J., Jan. 23, 1920; New York University College of Medicine, New York, 1943; specialist certified by the American Board of Radiology; certified by the National Board of Medical Examiners; served during World War II and was awarded the Bronze Star, the Unit Presidential Citation, the Combat Medical Badge, and other decorations; affiliated with the Veterans Administration Hospital in Castle Point; associate radiologist at St. Francis Hospital in Poughkeepsie; formerly affiliated with the Maimonides Hospital in Brooklyn; died Oct. 18, aged 33, of Hodgkin's disease.

Atkinson, Howell, North Little Rock, Ark.; Kansas City (Mo.) College of Medicine and Surgery, 1918; on the courtesy staff of St. Vincent's Infirmary in Little Rock; died Oct. 19, aged 69, of coronary occlusion.

Barnett, Thomas Meriwether, Atlanta, Ga.; Vanderbilt University School of Medicine, Nashville, Tenn., 1899; served during World War I; retired chief surgeon of the old U. S. Veterans Hospital No. 48; died Sept. 27, aged 74, of coronary occlusion and arteriosclerosis.

Bartecchi, Ferdinand Aloysius ⊕ Scranton, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1920; director of public health; formerly county coroner; died Oct. 23, aged 56, of coronary thrombosis.

Donovan, William Henry ⊕ Iowa City, Iowa; State University of Iowa College of Medicine, Iowa City, 1907; died in the Mercy Hospital Sept. 1, aged 69, of Staphylococcus aureus bacteremia.

Fecteau, Adelard, St. Petersburg, Fla.; School of Medicine and Surgery of Montreal, Faculty of Medicine of the University of Laval at Montreal, Canada, 1895; served as city physician and as a member of the city board of health; on the staff of the Fall River General Hospital; died Oct. 14, aged 82, of aplastic anemia and arteriosclerotic heart disease.

Fergusson, Frederick William ⊕ Lodi, Calif.; Northwestern University Medical School, Chicago, 1918; past president and vice-president of the North Dakota State Medical Association; served as a member of the state board of medical examiners of North Dakota; died Sept. 5, aged 61.

Foley, Francis Edward, New Haven, Conn.; Yale University School of Medicine, New Haven, 1914; for many years physician for the State Athletic Commission; formerly on the staff of the Hospital of St. Raphael; died in North Westport, Mass., Oct. 15, aged 68.

Freas, Martin Wesley ⊕ Berwick, Pa.; Jefferson Medical College of Philadelphia, 1914; past president and vice-president of the Columbia County Medical Society; served during World War I; affiliated with Berwick Hospital; died Oct. 11, aged 64, of a cerebral accident.

Freeland, Frank, Maywood, N. J.; University and Bellevue Hospital Medical College, New York, 1901; died in Hackensack (N. J.) Hospital Oct. 22, aged 77, of acute left ventricular failure.

Fruth, Harold Edgar, Columbus, Ohio; Chicago College of Medicine and Surgery, 1915; served in France during World War I; physician for the Pennsylvania Railroad; died in Fostoria Oct. 13, aged 60.

Girouard, Joseph Arthur ⊕ Willimantic, Conn.; Baltimore Medical College, 1899; member of the New England Obstetrical and Gynecological Society; fellow of the American College of Surgeons; on the staff of the Windham Community Memorial Hospital; died Sept. 29, aged 78, of coronary thrombosis.

Gobar, Franklin Harold ⊕ Fullerton, Calif.; Stanford University School of Medicine, San Francisco, 1924; served during World War I; past president of the Orange County Medical Society; died Oct. 16, aged 63.

Good, Charles Frederick ⊕ Cleveland; Western Reserve University School of Medicine, Cleveland, 1927; specialist certified by the American Board of Pediatrics; served during World War II; medical supervisor of public schools in Cleveland; affiliated with the Babies and Childrens Hospital; died Oct. 16, aged 52, of arteriosclerotic heart disease.

Gordon, Donald Louis, Oscoda, Mich.; McGill University Faculty of Medicine, Montreal, Canada, 1939; served during World War II; died in the Hackensack (N. J.) Hospital Sept. 2, aged 44, of massive intestinal hemorrhage and thrombosis with embolism to lung.

⊕ Indicates Member of the American Medical Association.

Grillo, Vincent James ⊕ New Haven, Conn.; Yale University School of Medicine, New Haven, 1933; *specialist certified by* the American Board of Orthopaedic Surgery; certified by the National Board of Medical Examiners; affiliated with Newington (Conn.) Home and Hospital for Crippled Children, Grace New Haven Community Hospital, and Hospital of St. Raphael; died recently, aged 44.

Hall, Fred Watt, Rome, Ga.; College of Physicians and Surgeons, Memphis, Tenn., 1907; consulting surgeon, Central of Georgia Railroad; died Oct. 2, aged 72, of myocardial infarction and arteriosclerosis.

Hansen, Charles Ola, Long Beach, Calif.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1898; served during World War I; died Oct. 8, aged 86, of arteriosclerotic heart disease.

Harris, George Gano ⊕ Helena, Okla.; University of Oklahoma School of Medicine, *Oklahoma City, 1917;* served during World War I; twice president of the Alfalfa County Medical Society; affiliated with Masonic Hospital in Cherokee and the Enid (Okla.) General Hospital; died in Enid Sept. 30, aged 66, of coronary occlusion.

Hatchett, William Clifton, Hollywood, Fla.; Memphis (Tenn.) Hospital Medical College, 1912; for many years county health officer; served during World Wars I and II; died Oct. 26, aged 65, of a heart attack.

Hawley, Nelson Joy, Webster Groves, Mo.; Washington University School of Medicine, St. Louis, 1895; served during World War I; died in the Veterans Administration Hospital in Jefferson Barracks Oct. 1, aged 81, of arteriosclerosis.

Henritzy, Oscar Edwin, Port Matilda, Pa.; Medico-Chirurgical College of Philadelphia, 1898; also a graduate pharmacist; died in Altoona (Pa.) Hospital Sept. 30, aged 81.

Hood, Charles Sumner ⊕ Ferndale, Wash.; Kansas Medical College, Medical Department of Washburn College, Topeka, 1902; an Associate Fellow of the American Medical Association; formerly affiliated with the Indian Service; served during World War I; county coroner; on the staff of St. Joseph's Hospital in Bellingham; died in the Virginia Mason Hospital in Seattle Sept. 15, aged 79, of cerebral hemorrhage.

Houck, William Seibert, Harrisburg, Pa.; Medico-Chirurgical College of Philadelphia, 1914; also a minister; affiliated with Keystone Hospital; died Oct. 5, aged 67, of a heart attack.

Ivec, Martin J. ⊕ Joliet, Ill.; Rush Medical College, Chicago, 1904; died in September, aged 74.

Jackson, Bruce Emmett ⊕ Chicago; Chicago Medical School, 1927; served during World War II; died Oct. 21, aged 52, of coronary occlusion.

Jennings, Edward S. ⊕ Spokane, Wash.; Milwaukee Medical College, 1909; an Associate Fellow of the American Medical Association; member of the North Pacific Surgical Association; died in the Sacred Heart Hospital Oct. 8, aged 72.

Jermstad, Robert James ⊕ Flint, Mich.; Rush Medical College, Chicago, 1934; specialist certified by the American Board of Pathology; member of the College of American Pathologists and the American Society of Clinical Pathologists; served during World War II; affiliated with McLaren, Hurley, and St. Joseph hospitals; died in the Leila Y. Post Montgomery Hospital in Battle Creek Oct. 15, aged 45, of injuries received in an automobile accident.

Jerrick, Walter Fitzgerald ⊕ Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1919; died in the Hospital of the University of Pennsylvania Oct. 23, aged 59, of hypertensive arteriosclerotic heart disease with renal failure.

Jobes, John Bell, Washington, Pa.; Eclectic Medical Institute, Cincinnati, 1896; died in St. Francis Hospital, Pittsburgh, Aug. 30, aged 84.

Jones, Frank Collett, Frankfort, Ind.; Chicago Medical College, 1889; died in the Clinton County Hospital Oct. 17, aged 90, of carcinoma of the sigmoid.

Jones, Maurice Leland ⊕ Kansas City, Mo.; Rush Medical College, *Chicago, 1930; specialist* certified by the American Board of Pathology; member of the College of American Pathologists and the American Society of Clinical Pathologists; at one time on the faculty of the University of Tennessee College of Medicine, Memphis; affiliated with Veterans Administration Center in Wadsworth, Kan.; died in St. Luke's Hospital July 20, aged 52, of uremia following surgery.

Jost, William Edward ⊕ St. Louis; St. Louis College of Physicians and Surgeons, 1906; died in the Alexian Brothers Hospital Sept. 18, aged 73.

Kauffman, Ira Dwight, Long Beach, Calif.; Chicago Homeopathic Medical College, 1901; died Aug. 23, aged 78, of carcinoma of the colon and liver.

Kownacki, Francis Joseph ⊕ Philadelphia; Temple University School of Medicine, Philadelphia, 1919; affiliated with Frankford Hospital, Episcopal Hospital, and St. Mary's Hospital, where he died Oct. 21, aged 58, of coronary occlusion.

Lang, John Henry ⊕ Fullerton, Calif.; St. Louis University School of Medicine, 1906; member of the Industrial Medical Association; died Aug. 1, aged 71, of coronary thrombosis, diabetes mellitus, and of an injury received in a fall.

Lipkis, Abram, Los Angeles; Denver and Gross College of Medicine, 1907; died Aug. 18, aged 78, of acute myocardial infarction, hypertension, and arteriosclerotic heart disease.

Little, Theodore Alvin ⊕ Erie, Pa.; Baltimore Medical College, 1908; served during World War I; for many years physician at the General Electric Company; died Aug. 16, aged 71, of carcinoma of the prostate.

Lucke, Alexander William, Cleveland; University of Wooster Medical Department, Cleveland, 1897; director of the National Screw & Manufacturing Company and the Cleveland Graphite Bronze Division of the Clevite Corporation; died in the Huron Road Hospital Oct. 12, aged 79, of rupture of the heart.

Lurie, Solomon I. ⊕ Newark, N. J.; The General Medical College, Chicago, 1923; an examining physician for Newark draft boards during World War II; on the staff of Beth Israel Hospital; died in Long Beach, L. I., Sept. 7, aged 57.

McLain, William Hay ⊕ Wheeling, W. Va.; Rush Medical College, Chicago, 1896; died in St. Francis Hospital, Pittsburgh, Aug. 14, aged 79, of arteriosclerosis.

Miller, Edward Bernard, Stevens Point, Wis.; Chicago Medical School, 1935; served during World Wars I and II; died in St. Michael's Hospital, Oct. 1, aged 59, of hemiplegia, arteriosclerosis, and hypertension.

Robinson, Jay Aaron ⊕ Trenton, N. J.; Georgetown University School of Medicine, Washington, D. C., 1942; certified by the National Board of Medical Examiners; deputy coroner of Mercer County; served during World War II; affiliated with St. Francis Hospital; died in the George Washington Hospital, Washington, D. C., Oct. 20, aged 37, of acute poliomyelitis.

Russell, James Andrew Merle ⊕ Erie, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1917; specialist certified by the American Board of Otolaryngology; member of the American Academy of Ophthalmology and Otolaryngology; past president of the Erie County Medical Society; served on the staffs of the Hamot and St. Vincent's hospitals; died Aug. 18, aged 61, of coronary thrombosis.

Strauss, Fletcher Louis ⊕ Chicago; Rush Medical College, Chicago, 1897; an Associate Fellow of the American Medical Association; died in the Sherman Hospital, Elgin, Ill., Oct. 20, aged 77, of carcinoma of the stomach.

Sullivan, Walter Thomas Jr. ⊕ Bronxville, N. Y.; Cornell University Medical College, New York, 1940; interned at Albany (N. Y.) Hospital; affiliated with the Lawrence Hospital, where he died Oct. 29, aged 43, of coronary occlusion.

Trombley, Bryan ⊕ Detroit; Detroit College of Medicine and Surgery, 1921; on the staff of the Evangelical Deaconess Hospital; died in Santa Barbara, Calif., Sept. 15, aged 57, of coronary thrombosis.

FOREIGN LETTERS

BRAZIL

Duodenum-Lung Circulation Time in Portal Hypertension.—At a meeting of the Associação Paulista de Medicina, Drs. N. Moraes Barros, Octavio M. Dantas, and Palmiro Rocha presented a paper describing a study of the duodenum-lung circulation time in 38 patients (12 normal persons, 5 with diseases that do not interfere with the portal system, and 21 with a disease affecting the portal system). Although they found a striking difference between the circulation time in normal persons and in those with portal hypertension, there was an overlapping of the two groups between the values 30 and 40 seconds, suggesting an absence of hypertension when the time is less than 30 seconds and the presence of hypertension when the value is greater than 40 seconds. There was no significant difference between the duodenum-lung circulation time before and after an operation for a condition not involving the portal system, thus permitting the use of this determination as a test of the circulatory condition of the portal system. Quite different results were obtained in the patients on whom operations were performed that involved the portal system; of these 13 had splenorenal anastomosis, 3 had splenectomy, and 5 had ligation of the hepatic and splenic arteries. In all these patients, the duodenum-lung circulation time was lower after than before the operation. The duodenum-lung circulation time is not convenient for the study of the permeability of the venous shunt, nonsignificant differences having been found in patients on whom other types of operations were performed.

Postpartum Necrosis of the Anterior Hypophysis.—At a meeting of the Associação Paulista de Medicina, Drs. Cassio Bottura, Moacyr T. Verissimo, and Renato H. Migliorini presented a report on four cases of panhypopituitarism resulting from postpartum ischemic necrosis of the anterior hypophysis. A history of hemorrhage during the previous delivery and the subsequent clinical findings did not leave any doubt about the diagnosis. Owing to the psychic condition of such patients, the obstetric history is often inconclusive. The clinical findings are a combination of the signs and symptoms of gonadal, thyroid, and suprarenal insufficiencies. In making their diagnoses, the authors used the basal metabolic rate and the serum cholesterol level to assay the thyroid function; the Robinson-Power-Kepler test, the response of the eosinophils to corticotropin (ACTH) and epinephrine (Suprarenin), the tolerance to glucose and insulin, the blood sodium, potassium, and chloride levels, and the determination of the urinary 17-ketosteroids and corticoids to determine the suprarenal insufficiency; the colpocytology to ascertain the gonadal insufficiency in women; and the low urinary elimination of the gonadotropins to disclose the hypofunction secondary to a hypophyseal lesion. The absence of visual defects or roentgenographic alterations in the sella turcica ruled out the possibility of a tumor causing the hypophyseal lesion. These procedures, permitting the determination of the glandular insufficiency, even in the absence of pathognomonic clinical findings, enable the practitioner to make a surer diagnosis of the disease and prevent confusion with similar clinical entities, particularly with anorexia nervosa. The four patients described by the authors were in relatively good general condition with about normal body weight. This fact supports the belief that cachexia is not an essential symptom of panhypopituitarism.

Intermediate Nephron Nephrosis in Crotalic Poisoning.—The problem of the lesions caused by rattlesnake venom in man has been incompletely studied up to now. Drs. M. Freitas Amorim and R. Franco de Mello of the São Paulo Butantan Institute studied three fatal cases and found chiefly degenerative and necrotic phenomena, especially on the ascending part of the Henle loops and the distal convoluted tubules, with casts that gave positive hemoglobin reaction. The casts were also numerous in the medullar zone, in the interior of the ducts of Bellini. In two of the patients, there was, in the intermediate zone of the kidney and the cortex around the more degenerated tubules, an inflammatory and interstitial neutrophilic granulocytic reaction, with edema and some marked focal hyperplasia of histiocytes. In the medullary zone, however, the ducts of Bellini contained only casts, without any degeneration or necrosis and, consequently, without any inflammatory reaction in that region. This gives the medullary zone the appearance of a "clearing," in contrast to the intermediate and cortical zones of the parenchyma that present a less clear pattern because reactionary inflammatory lesions are present.

Such lesions may closely resemble those first described by Hackradt and by Minami under the name of burial nephrosis, by Bywaters and Dible as a crush syndrome, and later by Lucke as lower nephron nephrosis. These are characterized, in general, by myohemoglubinuria or simple hemoglobinuria or by hemolytic anemia, such as found in metallic poisonings, toxemia of pregnancy, falciparum malaria, and transfusion of incompatible blood. Lesions of this type, however, have never been described in patients with snake bite. The authors object to the designation of this condition as lower nephron nephrosis. They prefer to regard it as an intermediate nephron nephrosis. They stress the necessity of reserving the term lower nephron nephrosis for those patients in whom degenerative and necrotic lesions in the medullary zone of the kidney predominate, as in the renal lesions associated with gout.

Ovarian Cysts with Twisted Pedicles.—Ovarian cysts with long pedicles, even those of large volume, produce clinical symptoms only when there are complications in their evolution. Among these complications the most frequent is torsion of the pedicle. The clinical findings, in general obscure, may then be changed by the rapid appearance of continuous or intermittent pain of varying intensity. To study the main features of the ovarian cysts with twisted pedicles, Dr. B. Neme analyzed the last 28 records of that condition seen in the obstetrical department of the Hospital das Clinicas (São Paulo State University) and published a report on this study in *Revista de Gynecologia e d'Obstetricia* (47:503, 1953). He found that this condition is rather rare, as demonstrated by the existence of only 28 cases in the files of the hospital between 1945 and 1952. The patients were from 19 to 53 years old; 5 were pregnant (2 with ectopic pregnancy); 22 were multiparas; and in 18 the involvement was on the right side. The torsions did not exceed five turns and the local lesions consisted only of hemorrhage of the wall or into the cavity of the cyst. Of the 16 cysts for which the type was recorded, 10 were serous cystadenomas, 3 were dermoid cysts and cysts of the corpus luteum, 2 were pseudomucinous cystadenomas, and one was a papilliferous cyst. The symptoms included pain in the lower abdomen in all patients (95% homolateral), tumor mass in 92.8%, nausea and vomiting in 75%, temperature elevation in 45.7%, and rebound tenderness in 42.8%. Puncture of the pouch of Douglas and radiography are helpful diagnostic procedures.

Revision of the Chromogenic Strains of the Genus Neisseria.—Dr. J. de Toledo Mello, São Paulo State University, studied the genus Neisseria and the systematic position of the flava subgroup of aerobic strains that develop well on ordinary culture mediums. No justification for the maintenance of the perflava and subflava species was found. Fermentation reactions in this group of bacteria are unstable and uncertain and may thereby give rise to an increase in the number of strains reported according to the amount of carbohydrates used. The Neisseria flavescens (Branham 1930), inactive on the four carbohydrates used for the identification of chromogenic strains of the Neisseria group, presents the same culture

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The items in these letters are contributed by regular correspondents in the various foreign countries.

reactions described by Gordon in 1921. Its characteristics as a new species were based on serologic data obtained in agglutination tests, considered without value for the study of this group. It is suggested by Mello that the yellow strains of the Neisseria genus that do not grow on ordinary culture mediums be classified as a single species and be referred to as Neisseria flava (Bergey and others).

FINLAND

Duration of BCG Allergy.—The duration of BCG (bacille Calmette Guérin) allergy, as determined by the persistence of a positive tuberculin reaction after BCG vaccination, may be judged incorrectly when exposure to infection with virulent tubercle bacilli has by itself assured a positive tuberculin reaction. To avoid this element of confusion, the ideal would be to keep persons who are vaccinated with BCG under close supervision and out of contact with open cases of tuberculosis. With this ideal in mind, Dr. Ole Wasz-Höckert and Dr. Märta Donner of Helsinki have followed the tuberculin reactions of the inmates and staffs of six institutions for mental defectives. Since 1949, 565 members of these staffs have been tested, and 269 of them showed negative reaction to an injection of 1 mg. of tuberculin. As many as 224 of these 269 negative reactors were vaccinated with BCG. The vaccination was effected by intracutaneous injection, and the tuberculin testing that was carried out three months later was repeated twice a year with from 0.01 mg. to 1 mg. of tuberculin. The vaccinated subjects were also kept under yearly radiological control. The absence of infectious cases of tuberculosis in the environment of these persons was indicated by the persistence of negative tuberculin reactions several months before they were vaccinated with BCG. This investigation, recorded in *Nordisk Medicin,* Aug. 20, 1953, showed that among 200 vaccinated persons four (2%) were tuberculin-negative half a year after vaccination. This percentage was raised to 7.5% after one year, to 10.4% after one and one-half years, and to 29.5% after two and one-half years. It would thus seem that the tuberculin allergy effected by BCG does not last long in a large proportion of cases.

Cesarean Section.—At the University Gynecological Hospital in Helsinki, lately there has been a definite tendency to liberalize the indications for cesarean section. In his address at a meeting in 1952, Prof. Paavo Vara pointed out that at this hospital cesarean sections had constituted only 1.5% of the confinements in 1925, whereas the corresponding figure for 1950 was 5.38%. A recent study by Dr. Erik Aschan and Dr. Olavi Kinnunen from the same hospital reflects the same trend. Among 46,877 confinements at this hospital in the period 1945-1951, 151 were complicated by transverse and oblique positions of the infant. In 94 cases delivery was by cesarean section with the loss of only one infant. In 25 cases internal version was undertaken with the loss of four infants, and in 32 cases external version was undertaken with the loss of one infant. These figures give some support to the disapproval of internal version for transverse and oblique positions. The authors concluded that if external version fails and the patient is a primipara, Cesarean section is the method of choice. The same rule applies to multiparas with a narrow pelvis, placenta previa, early rupture of the membrane, or prolapse of the umbilical cord or a limb. In other patients delivery can be effected by the normal route.

The Early Diagnosis of Cancer of the Stomach.—Two recent articles in the Scandinavian medical press, both by Dr. Harry E. Bloomquist of the Maria Hospital in Helsinki, dealt with 372 patients with cancer of the stomach treated at this hospital in the 20 year period 1926-1945. About 25% of these patients presented signs and symptoms of cancer of the stomach two months or less before medical examination. In about 44% this interval was four months or less, and in about 60% this interval was six months or less. In only about 20% had this interval lasted longer than a year. A comparison of the length of this interval with the operability of the disease suggested that the shorter the interval the worse the prognosis; thus, in as many as 67 of 77 patients with a history of symptoms for two months or less the disease was found to be inoperable. In other words, it is the degree of malignancy that determines the prognosis irrespective of the previous duration of symptoms.

Although Blomquist has found a radiological examination capable of indicating a malignant tumor in 78.5% of his patients, he doubts the value of mass radiography of the stomach on the lines followed for wholesale examinations for pulmonary tuberculosis, because a radiologist could not make more than 20 such examinations daily and if a prophylactic radiological examination were to be made four times a year of the million inhabitants of Finland over the age of 40 years, 7,500 radiologists would be required for this service alone. The three month interval between examinations was based on the fact that about 50% of his patients had presented symptoms for less than four months. Even if prophylactic radiological examinations were to be confined to patients with chronic gastritis, the task would be far too great considering the high frequency of this condition. Blomquist found a palpable tumor in about 50%, free hydrochloric acid in 20.5%, blood in the feces in 75%, hemoglobin concentration (Sahli) of 80% or more in only 27.8%, and a normal sedimentation rate in 75% of the patients in this series.

Chemotherapy of Primary Exudative Pleurisy.—At a hospital in Åbo, comparative studies of various methods of treating primary exudative pleurisy have been undertaken. These studies, reported by Dr. Lennart Kalliomäki in *Duodecim,* incorporated in *Nordisk Medicin* for June 17, 1953, deal with three groups of patients. The first group, treated in 1947, contained 54 patients for whom rest in bed, tonics, and salicylic acid (Salicyl) were prescribed. The second group consisted of 40 patients who were treated with *p*-aminosalicylic acid (PAS). The third group consisted of 36 patients who, in addition to *p*-aminosalicylic acid given by the mouth, were given intramuscular injections of streptomycin. All the patients were kept in the hospital till they had become completely afebrile, and the sedimentation rate had fallen. Aspiration of pleural fluid was undertaken only when it was indicated by dyspnea. The comparative merits of the treatment the patients received in each of these three groups were examined in the light of the duration of the fever and the behavior of the sedimentation rate. The behavior of the sedimentation rate was much the same in all three groups, and there was no statistically significant difference in the duration of the fever.

LONDON

The General Practitioner and Lay Education in Cancer.—Lord Horder, chairman of the British Empire Cancer Campaign, stated in *Lancet* that those who favor a campaign of intensive lay education argue that even at the worst it must bring to light some patients in the earlier and potentially curable stage and that in any case a policy of diffusing knowledge is more likely to abolish than to create fear, which is largely born of ignorance. Those who take the opposite view argue that the best course is the strengthening of the relationship between patient and family doctor and that a policy that risked the danger of producing cancer neurosis might render the physician's task more difficult by keeping some genuine but fearful cancer patients away and by overloading the physician with cases of carcinophobia. Accordingly the cancer campaign issued a questionnaire asking all general practitioners: "Do you consider that the launching of a scheme of lay educational propaganda on cancer (by pamphlet, lectures, films, etc.) would be of assistance in securing the earlier diagnosis of cancer, and thereby improving the chances of a cure?" To 21,040 letters there were 5,053 replies, which is considered a high proportion of replies to this type of questionnaire. Of the replies, 2,148 were an unqualified "yes" and 2,683 an unqualified "no." The accompanying letters showed that a large number of practitioners had given much thought to the matter. Lord Horder makes no comment on these figures, but says that on the strength of them, the campaign will consider the matter further.

Clinical Research in the National Health Service.—Under the National Health Service Act of 1946, the Minister of Health was empowered to undertake research or to help others to do so, and a Clinical Research Board will be set up, to be responsible for promoting clinical research on a national basis. If the research organization is to work, there must be effective machinery for consultation at all levels, and provision is made for this. Careers in clinical research will be equated in all material respects with careers in the National Health Service. Research units will not be imposed on hospitals, nor will clinical research workers be promoted to senior posts without the agreement of the hospitals concerned. It is hoped that regional and hospital authorities will seek the advice and help of the Clinical Research Board about their research projects.

New Maternity Benefits.—Under the National Insurance scheme the maternity grant will be increased from $11.20 to $25.20 effective Oct. 26, 1953, and there will be an additional new grant of $8.40 for home confinements. For women not employed outside their own home duties, the home confinement grant of $8.40 will take the place of the former attendance allowance of $2.80 a week for the four weeks immediately after the date of the confinement. Women ordinarily working for an employer or self-employed will receive the $8.40 home confinement grant and a maternity allowance of $4.55 for the 18 weeks starting 11 weeks before the expected date of confinement, with additions in certain circumstances for dependents. This is instead of the present maternity allowance of $5.05 for the 13 weeks starting six weeks before the expected date of confinement. The home confinement grant will also be awarded for confinements that take place in any other institution or accommodation, such as a private nursing home, so long as the cost of accommodation and maintenance does not fall on public funds.

Hospital Priority for War Pensioners.—After transfer of the function of the Ministry of Pensions, priority will be given at all National Health Service hospitals to war pensioners needing examination or treatment for any condition related to the disability for which they are pensioned. This priority will be given subject only to the needs of emergency and other urgent cases that must take precedence, and hospital authorities are being asked to ensure that it is afforded in all cases where a condition related to an accepted disability is involved. Civilian and mercantile marine pensions will be dealt with in the same way as service pensioners. General practitioners are asked by the Ministry of Health to state clearly when referring war pensioners to hospitals in the National Health Service if the reference is in connection with an accepted disability, so that the necessary priority may be given.

Enrollment in Medicine.—The number of names in the current British Medical Register is 83,914, an increase of 1,658 over the corresponding figure on Jan. 1, 1952. In 1933 the total number on the register was 56,741. The number added by registration in 1952 (4,493) was the highest on record. As against this there were in 1952 an unusually large number of removals under the section of the Medical Act of 1858 that prescribes that names shall be removed after a stipulated period in the absence of any answer to the inquiry, whether there has been cessation of practice or change of address. The number removed under the penal sections of the act is no greater than it was 20 years ago, though in the meantime the total on the register has increased by 40%. The number of students beginning the medical curriculum proper during the year 1952-1953 is estimated at 2,512, which is about 50 fewer than for the previous year.

Under the Medical Act of 1950, full registration is not granted without proof of experience, namely, a certificate that the applicant has been engaged in employment in a resident medical capacity in one or more approved hospitals or institutions (including an approved health center) for the period prescribed by the regulations of the General Medical Council. Jan. 1, 1953, was appointed as the day after which a newly qualified person would not be eligible for full registration until he had, after passing his qualifying examination, served as house officer in one or more such approved hospitals or institutions for 12 months.

British Pharmacopoeia, 1953.—The eighth British Pharmacc poeia, published in March, 1953, became official in Septembe in accordance with the program for quinquennial revisio approved by the General Medical Council. According to th *British Medical Journal* of Sept. 19, 1953, the new numbe contains 115 monographs on substances that were not offici in 1948, and 130 monographs of the previous edition hav been deleted. The immediate impressions on opening th volume are the novelty of the English titles, the new arrang ment of the monographs, and the clarity of the printed matte No longer do we find "Toxinum Diphthericum Detoxicatum but "Diphtheria Prophylactic," not "Oculenta—Ointments f the Eye" but "Eye Ointments." The names of many oth preparations have been rationalized, so that, for example, th words "aspirin tablets" and not only "tablets of aspirin" no connote an official article. By the new arrangement of th monographs, preparations such as ointments, injections, tablets follow immediately after the monograph on the acti ingredient, and, although this will be a convenience to phys cians and analysts, it will demand changes in the habits thought of pharmacists. Some comment on the change fro Latin to English titles was made at the recent British Pharm ceutical Conference, at which there was a debate between tho for and those against the writing of prescriptions in Englis instead of Latin. Prof. A. D. Macdonald said that medic and chemical specialists, in their comments on the ne pharmacopoeia, seemed to support English to a man. Th pharmacists were about 2 to 1 in favor.

The introduction to the new pharmacopoeia contains i formative tables showing the rejections and selections ma by the Pharmacopoeia Commission. Nineteen vegetable dru and their numerous tinctures, infusions, syrups, and extrac have been deleted either because of their therapeutic i adequacies or because the active principle, for exampl ergonovine, is available as a pure stable substance. All th pharmacopoeial pills and lozenges (except penicillin lozenge the liniments of aconite and of belladonna, and some spiri and little-used injections no longer appear. Capsules ar implants have been introduced as a dosage form of certa medicaments. In the list of additions the modern synthet chemicals and the antibiotics appear most frequently. Penici lin and procaine penicillin, the streptomycins, chlortetracycli (aureomycin), and chloramphenicol, with their preparation account for 15 monographs not present in the 1948 editio Among other monographs appearing for the first time a those on methadone, phenadoxone hydrochloride, globin zi insulin, scarlet fever antitoxin and prophylactic, cyanocobal min (vitamin B_{12}), and sodium aminosalicylate.

The statements on dosage of the drugs show two gener changes; both might be taken with advantage a step furth in the next edition. Doses are given only in the metric syste except for substances and preparations commonly used prescribed in the Imperial system. Grain doses for the sulfon mides and sex hormones and minim doses for typhus vaccin are omitted. The tendency to expand information on dosag increases the value of the book to the prescriber. For methy thiouracil and propylthiouracil the controlling dose and th maintenance dose are now given; for sodium iodide there a dose for the treatment of thyrotoxicosis; and the dose picrotoxin is given for treatment of barbiturate poisoning.

White Bread.—Statutory orders that came into force on Au 30 have removed the restrictions on the extraction rate o flour, thus permitting a return to the white loaf. The orde require, however, that calcium in the form of creta praeparat (1 oz. to 20 lb. or 1 gm. to 320 gm.) shall be added to al flour; and that iron, thiamine, and nicotinic acid shall b added to flours of extraction rate lower than 80%, the rat for national flour. Only bread made from national flour re mains controlled in price.

Artificial Sweeteners in Food.—In the future only sacchari will be permitted as an artificial food sweetener (Artificia Sweeteners in Food Order, 1953). This follows a recom mendation from the Medical Research Council. Saccharin i known to be harmless, but according to the Council's Foo Adulterants Committee the use of certain other artificia sweetening agents may be dangerous to health.

CORRESPONDENCE

DEATH AND DISTINCTION

To the Editor:—It is well known that, during the first half of the present century, there was a marked increase in the expectation of life for both sexes. The purpose of this letter is to suggest that those members of the medical profession, who belong to that branch of the profession that has played the greatest part in this achievement, have not themselves shared in the achievement and why this is so. Advantage has been taken of the obituary notices in THE JOURNAL in which the cause of death is stated in a high proportion.

From the beginning of 1950, two series of extracts have been prepared, one containing those persons selected for distinction in as far as they were placed first in the lists without regard to alphabetical order and one containing those whose notice failed to occupy the whole of three lines. That such a method of distinguishing prominent members of the medical profession may involve injustice cannot be denied; in general, however, it must distinguish between success and failure in relation to the particular standards involved.

To obtain 500 consecutive notices in each group in which both the age of the subject and the cause of death was stated, 1,313 entries were abstracted; in 313 the age but not the cause of death was noted. The average age of death for these two groups was then calculated: distinguished, 578 persons with average age 67.1 years, and undistinguished, 735 persons with average age 72.3 years. The difference of 5.2 years in the expectation of life between the two groups is obviously significant, and the following table shows the distribution of deaths within them according to age.

	Distinguished		Undistinguished	
Age, Yr.	Number	% of Total	Number	% of Total
Under 40	7	1	15	2
40-49	45	8	23	3
50-59	90	16	55	8
60-69	170	29	164	22
70-79	180	31	254	35
80-89	73	13	185	25
90 and over	13	2	39	5
Total	578	100	735	100

Taking the biblical figure of three score years and ten as an adequate expectation of life for those who reach maturity, it will be noted that, while 65% of the undistinguished reached this goal, only 46% of the distinguished did so.

In the analyses of the causes of death of 500 persons in each of the two groups, the outstanding features are the low incidence of fatal disease of the respiratory tract, resulting from the discovery of sulfonamides and antibiotics, and the high incidence of cardiovascular degeneration. The major causes of death are listed in the following table.

	Distinguished		Undistinguished	
Cause of Death	Number	%	Number	%
Cardiovascular	325	65.0	332	66.4
Respiratory	23	4.6	25	5.0
Neoplastic	78	15.6	66	13.2
Accidental	24	4.8	21	4.2
Miscellaneous	50	10.0	56	11.2
Total	500		500	

It is clear that there is no significant difference between the two groups in the percentage of deaths resulting from any of the main causes, and it, therefore, appears that the difference in the average age of death between the distinguished and undistinguished must be due to a different age incidence for death in one or more of the groups. The following table shows an analysis of the figures to demonstrate this, excluding the accidental deaths and those resulting from miscellaneous causes.

	Distinguished		Undistinguished	
	Number	Average Age	Number	Average Age
Cardiovascular disease	325	67.2	332	72.5
Respiratory disease	23	75.5	25	77.8
Neoplasms	78	65.1	66	74.3
Total	426	67.6	423	73.1

It is of interest that, although the figures in this series are not large, the age incidence of neoplasms in the two groups shows as marked a disparity as that for cardiovascular diseases, a finding that certainly warrants further investigation.

The figures for deaths resulting from cardiovascular disease are sufficiently large to indicate that the distinguished have a poorer expectation of life than the undistinguished in this respect, and a further analysis (the next table) shows this to be due not only to the incidence and age occurrence of coronary occlusion, but to a trend involving all types of cardiovascular deterioration.

	Distinguished			Undistinguished		
	Number	%	Average Age	Number	%	Average Age
Coronary occlusion	164	50.5	65.1	135	40.7	69.0
Cerebrovascular accidents	54	16.6	69.3	76	22.9	75.4
Arteriosclerosis and hypertension	43	13.2	72.3	34	10.7	79.3
Unspecified and miscellaneous heart disease	64	19.7	69.3	87	26.2	72.5
Total	325		67.2	332		72.5

It is to be noted that in all groups the average age of death is substantially lower in the distinguished persons. The higher proportion and lower average age of deaths attributed to coronary occlusion are prominent factors. The following table shows the distribution of these deaths by age groups.

	Distinguished		Undistinguished	
Age, Yr.	Number	%	Number	%
Under 40	1	0.6	2	1.5
40-49	13	7.9	5	3.7
50-59	32	19.5	15	11.1
60-69	61	37.2	40	29.6
70-79	44	26.8	50	37.0
80-89	12	7.3	22	16.3
90 and over	1	0.6	1	0.7
Total	164		135	

These figures show that, whereas 65% of the coronary deaths in the distinguished occurred before the age of 70, only 46% did so in the undistinguished. In order to confirm the low average age of death from coronary occlusion in the distinguished, all deaths attributed to this cause in this group were abstracted for the years 1947 to 1949 inclusive. This gave 175 more deaths with an average age of 64.2 years, of which 65% (the same figure as in the first group) were under 70 years. These combined figures, therefore, appear to warrant the conclusion that coronary occlusion is a more important cause of premature death in distinguished as opposed to undistinguished members of the medical profession.

The Registrar-General's "Occupational Supplement" (England & Wales) covering 1930-1932 indicates that the medical profession is prone to coronary disease, even at that time, over 3½ times that of the rate for average men and more than 10 times that of agricultural laborers. The question as to whether a successful, as compared to an unsuccessful, professional career contributes to this risk is a fresh problem, and the evidence presented indicates that it deserves careful consideration.

In the Harveian Oration for 1946, as reported in *The Lancet*, Sir Maurice Cassidy posed the question "Does the population really work harder or live more strenuous lives than their grandfathers did?" He gave as his reply that he doubted it. Both the question and the answer appear to miss the point. The weight of the increased incidence of coronary occlusion has fallen on the professional class, and on the medical profession in particular. If the question were put "Does the physician and surgeon of today live more strenuously and more anxiously than those of two generations past?" the only answer possible is "Certainly!" It is unfortunate that the Victorian was reticent about his age and that the obituary notices of that period seldom stated the cause of death, so that an adequate comparison of a physician's life expectancy then with that today is difficult to make. Between 1897 and 1916 there died 258 members of the medical profession in England who were sufficiently distinguished to be included in "Who's Who" and whose date of birth was mentioned in that work. The following table shows the percentage dying from all causes in the various age groups, and it indicates that the life expectancy for the distinguished has not improved.

Age, Yr.	Who's Who (1897-1916)	The Journal (1950-1952)
Under 40	2%	1%
40-49	4%	8%
50-59	14%	16%
60-69	29%	29%
70-79	29%	31%
80-89	18%	13%
90 and over	3%	2%
Average age	69.5 yr.	67.1 yr.

It seems contrary to obvious facts not to conclude that the medical profession has maintained its financial and social status by working twice as fast with the aid of mechanical devices. Though to the conservative physician the attribution of such organic disease, as is involved in the atheroma-arteriosclerosis-hypertension syndrome and its lethal complications, to anything so nebulous as the psychosomatic concept of mental exhaustion and anxiety is obnoxious, it cannot be denied that evidence in favor of this view is accumulating steadily. As has been remarked by R. H. Ward, "We do not live in an age of reason or even in an age of romance, but in the age of anxiety," and it is upon those who live by their intellect, if not by their intelligence, that the impact of such an age must fall.

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WEAKNESSES OF SCIENTIFIC LITERATURE

To the Editor:—This is an appeal to you, and to other scientific editors, for a realistic appraisal of the difficulties that minimize greatly the value of scientific literature to physicians. After discussing this situation over a period of 10 years with physicians who have been out of medical school for 5 years or longer, I feel my criticisms are valid and worth while.

First of all, all or most lecturers, authors, editors, and publishers presuppose an intimate and fresh knowledge of histology. The obvious fact is that this is not so. The great majority of physicians who open a book on pathology and look at a microscopic illustration are frustrated because they have little or no concept of what is being seen, shown, or meant. Why can't these microscopic illustrations have legends, or arrows, as in the book by Netter and others? This way the physician eventually knows what he is seeing. Certainly the need for help is greater in illustrations of pathological conditions than in anatomic illustrations. Without recent instruction in histology, which the majority of physicians forget soon after being out in practice, all pathology illustrations are buried in an envelope of vincible ignorance that precludes easy understanding unless simple help is given by means of arrows or legends.

While the use of designations such as kilograms, grams, decimals for fractions of doses, centimeters, and centigrade temperatures is scientific, they greatly minimize the value of articles written primarily for American readers; few will take time to translate these terms into the understandable and familiar pound, gram, ounce, grain, inch, and Fahrenheit equivalents. If written in familiar terms, an American reader would have a quicker grasp, insight, and picture, while the foreign reader would have a greater motivating reason to translate them in his terms.

Why are the terms "the former and latter" used so often when it would be much easier to repeat, and to remember, "the former and latter" statement, especially a paragraph later? It is a source of irritation and it is a psychological obstruction. As a result, the purpose or value is minimized.

Because of the avalanche of literature a general practitioner has to, or should, read and because of a lack of time and/or mental inertia, anything that will make reading easier or provide a quicker grasp and faster insight is worth while. My points and arguments may be specious. They can be answered by stating that if articles and illustrations are worth while, time should be taken to read them. Because exercise of the intellect implies discipline and more energy than is available at times, I feel that these criticisms are valid and that they should be considered for more realistic reading, understanding, and value on a practical level. To paraphrase Henry Adams: "Nothing in scientific literature is so astounding, as the amount of ignorance that is left in the form of inert facts."

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Milwaukee, Wis.

TREATMENT OF RINGWORM OF THE SCALP

To the Editor:—I would like to suggest a method of treatment of ringworm of the scalp, which has been consistently effective in from one to two weeks. Immediate epilation would be ideal. Manual epilation is inefficient because of the tendency of the diseased hairs to break off in the follicles and to leave the bases intact. As a result the hyphae are protected from the fungistatic effect of the medicament. The use of adhesive plaster has been proved equally unsatisfactory for the same reason. Many years ago a barbarous method was employed called the "Tar Cap" or capellus piceus. It consisted of covering the entire scalp with molten tar and then, when it hardened, removing it together with all the hair, normal as well as diseased.

About seven years ago, I tried to find a method by which the diseased hairs could be removed at the beginning of treatment rather than after months of futile effort. I decided on using collodion and it proved eminently successful. At present, I proceed as follows. The normal hair is clipped to about ¼ in. (0.64 cm.) in length in an area about ¾ in. (1.91 cm.) wide around the area involved. The ringworm and the surrounding area are painted with Carbo-fung solution (a proprietary preparation containing alcohol, acetone, resorcinol, phenol, fuchsin, and inert ingredients). When used in this way, this preparation apparently kills the ectothrix spores and, because of its vivid color, gives assurance to school authorities that the child is under treatment. Then several layers of collodion are poured over the ringworm and allowed to dry. The collodion immeshes the stubble of hair down to the scalp. After three days, with ordinary activity on the child's part, the hairs are loosened. The collodion dressing is removed with forceps. There is amazingly little pain. The hairs come out very readily. Normal hair imbedded in the collodion is clipped beneath it. The infected area is free of hair. Thereafter, the mother is instructed to paint the area daily with Carbo-fung solution and to return in one week. In every instance, when the child returned, there was no evidence of fluorescence and no further spread or recurrence. This method combines epilation with the protection of others from contamination.

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Postgraduate Continuation Courses for Physicians

Compiled by the Council on Medical Education and Hospitals for the Period Jan. 1, 1954, to July 15, 1954

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Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	ADMINISTRATIVE MEDICINE		
Columbia University School of Public Health, 600 W. 168th St., New York 32	Administrative Medicine[40]	September, 21 months, full time	$1,045.00
	ALLERGY		
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Personal Course in Allergy Personal Course in Allergy Personal Course in Allergy and Related Conditions	Arranged, 6 months, full time Arranged, every month, 1 month, full time March 21, 10 days, part time	500.00 200.00 125.00
The American College of Allergists, Inc., 401 LaSalle Medical Bldg., Minneapolis 2			
At: Roney Plaza Hotel, Miami Beach 39, Fla.	Decennial Graduate Instructional Course in Allergy Decennial Congress	April 5-7, full time April 8-10, full time	65.00 None
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16[1]			
At: Beth El Hospital	Allergy	April, once weekly, 9 weeks, part time	80.00
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York	Allergy	Arranged, 2 months, part time	50.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19	Allergy	Arranged, twice weekly, part time	50.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	5416-A Refresher Course in Allergic Conditions 543-A Allergy	March 15-17, full time April 16-June 4, part time	35.00 40.00
American Academy of Allergy, 208 E. Wisconsin Ave., Milwaukee, Wis.			
At: Shamrock Hotel, Houston, Texas	Clinical Allergy Pollens and Molds Advanced Seminars in Allergy[2]	January 29-31, full time January 29-31, full time January 30-31, part time	40.00 35.00 15.00
	ANATOMY		
College of Medical Evangelists, 312 N. Boyle Ave., Los Angeles 33	Surgical Anatomy; Demonstration and Lectures Surgical Anatomy; Demonstration and Lectures	January 20-May 12, once weekly, part time May 17-June 9, twice weekly, part time	100.00 100.00
Yale University School of Medicine, 333 Cedar St., New Haven, Conn.[3]	Anatomy 201 Special Dissections	Arranged, part time	None
Indiana University School of Medicine, Indianapolis	Clinical and Anatomical Course in Otolaryngology Review Course in Surgical Anatomy	April 5-17, full time January 1-May 19, once weekly, part time	200.00 72.00
University of Maryland School of Medicine, 29 S. Greene St., Baltimore 1	Surgical Anatomy[47] Anatomy of Head as Applied to Eye, Ear, Nose and Throat Surgery[48] Gross Anatomy[48]	January, 15 weeks, part time Arranged, 18 weeks, part time Arranged, 6 months, part time	150.00 150.00 [49]
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15	Surgical Anatomy	March 1-April 23, part time	200.00
University of Michigan Medical School, Ann Arbor	Anatomy	February 11-May 27, 16 days, part time	65.00
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich.	Surgical Anatomy Regional Anatomy—Thorax, Abdomen and Pelvis Regional Anatomy—Back and Extremities Regional Anatomy—Head and Neck	March 15, 12 weeks, part time March 15, 12 weeks, part time March 15, 12 weeks, part time March 15, 12 weeks, part time	50.00 50.00 50.00 50.00
Cornell University Medical College, 1300 York Ave., New York 21	Surgical Anatomy	May 31-June 26, full time	200.00
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York	Applied Anatomy for the General Surgeon Anatomy of the Thorax Anatomy of the Abdomen Applied Anatomy for the Otolaryngologist Applied Anatomy of the Urogenital System Applied Anatomy for the Anesthetist Anatomy for the Orthopedic Surgeon	Arranged, 250 hours, part time Arranged, 100 hours, part time Arranged, 100 hours, part time Arranged, 150 hours, part time Arranged, 130 hours, part time Arranged, 125 hours, part time Arranged, 100 hours, part time	375.00 150.00 150.00 275.00 300.00 275.00 150.00

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Postgraduate Continuation Courses for Physicians—Jan. 1, 1954, to July 15, 1954—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	ANATOMY—Continued		
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19	Anatomy Course	Arranged, six 3-hour sessions, part time	$300.00
	Surgical Anatomy	Arranged, six 2-hour sessions, part time	200.00
	Operative Surgery	Arranged, six 3-hour sessions, part time	300.00
	Regional Anatomy	Arranged, three 2-hour sessions	150.00
	Surgical Anatomy	Arranged, 2 weeks, part time	150.00
	Surgical Anatomy, Dissections, Demonstrations and Lectures	Arranged, part time	200.00
	Anatomy, Dissections, Demonstrations and Lectures	Arranged, part time	200.00
	Head and Neck Dissection	Arranged, 6 weeks, part time	150.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	Course 412-A Anatomy of the Thorax *and Its Viscera*	January 4-March 26, part time	90.00
	414-A Anatomy of the Female Pelvis	January 4-March 26, part time	90.00
	415-A Anatomy of the Genitourinary System	March 29-June 18, part time	90.00
	416-A Anatomy of the Musculoskeletal System	March 29-June 18, part time	90.00
University of Oklahoma School of Medicine, 800 N. E. 13th St., Oklahoma City	The Roentgenology of the Normal, Including Borderlands and Variations	February 16, 10 weeks, part time	50.00
University of Pittsburgh School of Medicine, Dept. of Anatomy, 300 Pennsylvania Hall, Pittsburgh 13	Applied Anatomy	October 12-June 3, twice weekly, full time	50
University of Washington School of Medicine, Seattle 5 [4]	Applied Anatomy of the Thorax	March 24-June 2, part time	Not given
	ANESTHESIOLOGY		
College of Medical Evangelists, 312 N. Boyle Ave., Los Angeles 33	Anesthesiology	Every 2 months, 4 months, full time	300.00
University of California School of Medicine, Los Angeles	Anesthesiology	May 13, 14, full time	Not stated
University of Southern California School of Medicine, 1200 N. State St., Los Angeles At: Los Angeles County Hospital	892 Anesthesia	Arranged, 12 weeks, full time	300.00
St. Francis Hospital, 114 Woodland St., Hartford 5, Conn.	Anesthesiology—General and Regional	January 1, April 1, July 1, 1 month, full time	None
American Society of Anesthesiologists, Inc., 188 W. Randolph St., Chicago 1 At: 15 centers	Anesthesia for General Practitioners	Arranged, full time	Not given
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Practical Course in Spinal and Intravenous Anesthesia	Arranged, every 2 weeks, full time	150.00
	Practical Course in Nitrous Oxide and Ether Anesthesia	Arranged, every month, 1 month, full time	125.00
	Practical Course in Ether, Nitrous Oxide, Ethylene and Cyclopropane *Anesthesia*	Arranged, every month, 1 month, full time	200.00
	Practical Course in Endotracheal Anesthesia	Arranged, every 2 weeks, full time	150.00
University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City 12 [99]	Postgraduate Course in Anesthesiology	April 12-14, full time	30.00
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York	Clinical Anesthesiology	Arranged, 3 months, full time	200.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19	Applied Anesthesiology	January, April, 3 months, part time	300.00
	Anesthetic Technic	January, April, 1 week, part time	100.00
	Regional and Spinal Anesthesiology	January, April, 2 weeks, part time	150.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	512-A Regional Anesthesiology	January 4-16, full time	200.00
	512-A Regional Anesthesiology	May 17-29, full time	200.00
	510-B Anesthesiology: Endotracheal and Related Methods	January 18-23, full time	75.00
	512-B Regional Anesthesiology	May 17-29, full time	200.00
University of Pennsylvania Graduate School of Medicine, Philadelphia 4	Recent Advances in the Pharmacology *of Anesthetic Agents*	March 9-11, full time	60.00
University of Pittsburgh School of Medicine, 3941 O'Hara St., Pittsburgh 13	Anesthesia	June, 1 week, full time	25.00
University of Texas Postgraduate School of Medicine, Temple At: Scott and White Memorial Hospitals; Scott, Sherwood, and Brindley Foundation	Anesthesiology	January-June, 4 weeks, full time	25.00
	ARTHRITIS		
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19	Arthritis	Arranged, 8 weeks, part time	50.00
University of Buffalo School of Medicine, 24 High St., Buffalo, N. Y.	Arthritis	March 10, full time	15.00
University of Pittsburgh School of Medicine, 3941 O'Hara St., Pittsburgh 13 At: D. T. Watson School of Physiatrics	Protective Body Mechanics in Arthritis	March and April, 5 weeks, part time	10.00
	BACTERIOLOGY		
U. S. Public Health Service Communicable Disease Center, Virus and Rickettsia Laboratories, Montgomery, Ala.	Laboratory Diagnosis of Virus Diseases	March 15-26, full time	None
Yale University School of Medicine, 333 Cedar St., New Haven, Conn.[3]	Microbiology 210, Diagnostic Medical Mycology	Arranged, 3 months, twice weekly, part time	100.00
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich.	Microbiology Seminar	Every quarter, 12 weeks, part time	15.00
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York	Immunology	Arranged, 6 weeks, part time	50.00
	Bacteriology	Arranged, 3 months, part time	100.00
	Parasitology	Arranged, 6 weeks, part time	75.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	432-A Viruses and Virus Diseases	March 22-May 8, full time	211.00
	BASIC SCIENCE		
University of Southern California School of Medicine, 1200 N. State St., Los Angeles 33	820 Basic Science	Arranged, 100 hours, part time	200.00
University of Colorado Medical Center, Office of Graduate and Postgraduate Medical Education, 4200 E. Ninth Ave., Denver 20	Radiological Physics	January 2-May, once weekly, part time	28.00 per quarter
	Basic Sciences	Arranged, 36 hours, part time	52.00 per quarter (resident) 117.00 per quarter (non-resident)
University of Maryland School of Medicine, 29 S. Greene St., Baltimore 1	Basic Sciences as Applied to the Practice of Medicine	Arranged, 33 weeks, part time	50.00

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Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	BASIC SCIENCE—Continued		
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich.	Cellular Physiology	March 13, 12 weeks, part time	$30.00
	Seminar	Every quarter, 12 weeks, part time	15.00
University of South Dakota School of Medical Sciences, Vermillion	Master of Medical Science	February 1, July 1, 9 to 12 months, full time	100.00
	Postgraduate Basic Science Course	February 1, 18 weeks, part time	75.00
	CARDIOVASCULAR DISEASE		
Los Angeles County Heart Assn., 316 S. Bonnie Brae St., Los Angeles 57			
At: Approved hospital clinics in Los Angeles County	Postgraduate Preceptceships in Cardiology for the General Practitioner	Arranged, 12 weeks, part time	15.00
University of California School of Medicine, Medical Extension, Medical Center, San Francisco 22	Cardiovascular Disease	February 1-5, part time	Not given
University of Southern California School of Medicine, 1200 N. State St., Los Angeles 33	831 Electrocardiography	Arranged, 6-12 weeks, part time	[100]
George Washington University School of Medicine, 1335 H St., N. W., Washington 5, D. C.			
At: George Washington University Hospital	Cardiovascular Diseases	March 15-19, full time	75.00
Emory University School of Medicine, 69 Butler St., S. E., Atlanta, Ga.[5]			
At: Grady Memorial Hospital	Cardiovascular Disease	April 1, full time	5.00
Indiana University School of Medicine, Indianapolis	Annual Symposium on the Heart	February 3, full time	None
	Postgraduate Course in Electrocardiography	March 1-4, full time	50.00
University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City 12 [99]	Physical Diagnosis and Auscultation of the Heart	March 22-25, full time	40.00
Tulane University School of Medicine, 1430 Tulane Ave., New Orleans 12, La.	Cardiology	March 15-19, full time	50.00
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15			
At: Beth Israel Hospital	Cardiology 1	January 25-May 7, full time	500.00
At: Peter Bent Brigham Hospital	Clinical Heart Disease	July 1-30, full time	200.00
University of Michigan Medical School, Ann Arbor	Diseases of the Heart	March 15-19, full time	50.00
University of Minnesota Center for Continuation Study, Minneapolis 14 [6]	Cardiovascular Diseases for General Physicians	March 22-24, full time	25.00
Mississippi Heart Association, Jackson, Miss.			
At: University of Mississippi School of Medicine	Cardiology	February 8-12, full time	5.00
Seton Hall University School of Education, 31 Clinton St., Newark 2, N. J.[101]			
At: Newark City Hospital	Clinical Cardiology	March 12, once weekly, part time	100.00
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32			
At: Mt. Sinai Hospital	Medicine PM 31 Cardiovascular Diseases [10]	January 18-29, full time	140.00
	Medicine PM 48 Heart Disease and Circulatory Dynamics	February 16-April 20, part time	45.00
	Medicine PM 43 Spatial Vectorcardiography	March 15-20, full time	60.00
At: Montefiore Hospital	Medicine PM 62 Cardiology II—Section B	February 2-June 1, part time	150.00
	Medicine PM 63 Cardiology III—Section B	February 2-June 1, part time	200.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn [1]			
At: Jewish Sanitarium and Hospital for Chronic Diseases	Clinical Ballistocardiography	April, once weekly, 8 weeks, part time	20.00
At: Coney Island Hospital	Cardiovascular Disease	April, once weekly, 10 weeks, part time	20.00
At: Beth El Hospital	Clinical Cardiology	April, twice weekly, 6 weeks, part time	30.00
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York	Cardiology	Arranged, 20 weeks, part time	150.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19	Diagnosis and Treatment of Diseases of the Heart	Arranged, 3 weeks, part time	75.00
New York State Department of Health, Albany			
At: New York University-Bellevue Medical Center	Ascultation of the Heart	Spring, 3 days, full time	50.00
	Modern Concepts in Etiology, Diagnosis and Treatment of Heart Disease	Spring, 5 days, full time	50.00
New York State Department of Health, Albany 1 [7]	Cardiovascular Disease	January, 2 weeks, full time	140.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	5431-A Modern Concepts in the Etiology, Diagnosis and Treatment of Heart Diseases	January 11-15, full time	50.00
	544-A Cardiology	April 15-June 3, full time	75.00
	5425-A Cardiology	June 28-July 23, full time	250.00
St. Francis Sanatorium for Cardiac Children, Roslyn, N. Y.	Comprehensive Postgraduate Course in Heart Diseases in Children and Young Adults	June 2-18, full time	125.00
North Carolina State Board of Health, Raleigh, N. C.			
At: Bowman Gray School of Medicine of Wake Forest College, Winston-Salem 7	Cardiovascular Disease	March, 3 days, full time	None
The Cleveland Area Heart Society, 2073 E. 9th St., Room 518, Cleveland 15, Ohio			
At: Western Reserve University	Cardiac Resuscitation Course	Arranged, monthly, 1½ days, full time	[61]
The American College of Physicians, 4200 Pine St., Philadelphia			
At: Johns Hopkins Hospital, Baltimore, Md.	Ballistocardiography	January 11-13, full time	30.00 Members; 60.00 Non-members
Hahnemann Medical College and Hospital, 230 N. Broad St., Philadelphia 2	Postgraduate Cardiology Course	Arranged, 30 weeks, once weekly, part time	150.00
Medical Society of State of Pennsylvania, Commission on Graduate Education, 230 State St., Harrisburg, Pa.[8]			
At: Conemaugh Valley Hospital, Johnstown and Mellon Institute, Pittsburgh	Cardiology	Johnstown, January 7-March 11, part time	50.00
		Pittsburgh, January 20-March 24, part time	[52]
University of Pennsylvania Graduate School of Medicine, Philadelphia	Cardiology	January and March, 8 days, full time	80.00
University of Texas Postgraduate School of Medicine, 1400 Outer Belt Drive, Houston [102]	Heart Seminar	February 15-19, full time	25.00

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Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	DERMATOLOGY AND SYPHILOLOGY		
College of Medical Evangelists, 312 N. Boyle Ave., Los Angeles 33	Dermatology	January 6-March 24, once weekly, part time	$40.00
University of California School of Medicine, Los Angeles At: Veterans Administration Hospital	Dermatology in General Practice	February 17-March 24, part time	30.00
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Clinical Course in Dermatology	Arranged, 12 months, full time	1,000.00
	Clinical Refresher Course in Dermatology	Arranged, 2 or more weeks, full time	75.00
	Intensive Course in Dermatology	May 10, 2 weeks, *full time*	*100.00*
	Part-Time Course in Dermatology	March 24, 10 days, part time	100.00
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich. At: *Receiving Hospital*	Superficial Mycoses	March 13, 12 weeks, part time	30.00
	Deep Mycoses	March 15-June 12, part time	30.00
	Seminar in Dermopathology	Every quarter, 12 weeks, part time	15.00
	Seminar in Dermatology	Every quarter, 12 weeks, part time	15.00
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32 At: Columbia Presbyterian Medical Center	*Dermatology GM 1-A Advanced Dermatology*	*July 1, 6 to 12 months, full time*	230.00-460.00
	Dermatology GM 1 Clinical Dermatology	July 1, 6 to 12 months, full time	230.00-460.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19	Dermatology and Syphilology for the General Practitioner (Seminar)	Arranged, 5 days, part time	75.00
	Dermatology and Syphilology for Specialists (Seminar)	Arranged, 5 days, part time	75.00
	Dermatologic Histopathology (Seminar)	Arranged, 5 days, part time	75.00
	Training for *Specialization* in Dermatology and Syphilology	*Arranged, 3 years, full time*	1,000.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	522-A Seminar in Dermatology and Syphilology [53]	January 18-22, full time	75.00
	523-A Symposium on Dermatology and Syphilology	May 17-21, full time	85.00
Queens County Medical Society Graduate Education Committee, 112-25 Queens Blvd., Forest Hills, N. Y.	Dermatology	March, once weekly, part time	15.00
University of Pennsylvania Graduate School of Medicine, Philadelphia At: Graduate Hospital	Dermatology for the General Practitioner	*March 16-17, full time*	40.00
University of Texas Postgraduate School of Medicine, Temple At: Scott and White Memorial Hospitals; Scott, Sherwood, and Brindley Foundation	Dermatology and Syphilology	Arranged, 2 weeks, full time	25.00
University of Texas Postgraduate School of Medicine, Texas Medical Center, 1400 Outer Belt Dr., Houston 25 At: Auditorium-Lounge, Texas Medical Association Library, Austin, Texas	Dermatology	January or February, 1954, 8 weeks, part time	25.00
	DIABETES		
Florida State Board of Health, Department of Medicine, 1625 Riverside Ave., Jacksonville [93] At: Orlando	2d Annual Meeting Florida Clinical Diabetes Association	Spring, 2½ days, full time	10.00
Emory University School of Medicine, 69 Butler St., S. E., Atlanta, Ga.[5] At: Grady Memorial Hospital	Diabetes	March 4, full time	5.00
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Course in Medical and Surgical Diabetes	March 24, 10 days, part time	100.00
American Diabetes Association, Inc., 11 W. 42d St., New York 36 At: Mayo Clinic and Mayo Foundation, Rochester, Minn.	Diabetes and Basic Metabolic Problems [54]	January 18-20, full time	Members: 40.00 Non-Members: 75.00
Clifton Springs Sanitarium and Clinic, Clifton Springs, N. Y.[9]	Diabetes: Its Management in General Practice	May, 1 day, full time	None
	DISEASES OF THE CHEST		
American College of Chest Physicians, 112 E. Chestnut St., Chicago 11 At: Tulane University, New Orleans, La.[10]	Postgraduate Course in Diseases of the Chest	February 15-19, full time	75.00
At: Bellevue-Stratford Hotel, Philadelphia [11]	Seventh Annual Postgraduate Course in Diseases of the Chest	March 15-19, full time	75.00
Iowa Academy of General Practice, 912 Equitable Bldg., Des Moines 9 At: *Hotel Savery*	*Chest Diseases Other Than Tuberculosis*	*January 21, full time*	5.00 non-members
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32 At: Montefiore Hospital	Medicine PM 71 Diseases of the Chest	January 8-May 29, *part time*	100.00
At: Bellevue Hospital	Medicine PM 80 Diseases of the Chest	February 1-28, *full time*	55
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., *New York*	Diseases of the Chest	March and April, 2 months, *part time*	100 00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	548-A Acute and Chronic Diseases of the Chest	April 12-May 24, part time	35.00
University of Texas Postgraduate School of Medicine, Temple, Texas At: Scott and White Memorial Hospitals; Scott, Sherwood, and Brindley Foundation	Diseases of the Chest	*Arranged, 2 weeks, full time*	25.00
University of Utah, Division of Graduate and Postgraduate Medical Education, 175 E. 21st St. S., Salt Lake City At: Salt Lake County General Hospital	Diseases of the Chest	*April 14-16, full time*	30.00
	ELECTROCARDIOGRAPHY		
Los Angeles Graduate School of Medicine, 1858 W. Washington Blvd., Los Angeles 7	Electrocardiography	Once weekly, 12 weeks, full time	60.00
University of California School of Medicine, Los Angeles At: Campus and San Diego	Electrocardiography	*June 2, 18, part time*	20.00
University of California School of Medicine, Medical Extension, Medical Center, *San Francisco 22*	Electrocardiography	February 1-5, part time	Not given

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ELECTROCARDIOGRAPHY—Continued

Institution	Title of Course	Schedule of Course	Registration Fe and/or Tuition
Yale University School of Medicine, 333 Cedar St., New Haven, Conn.[3]	Medicine 215 Clinical Tutorial Electrocardiography	Arranged, 12 weeks, once weekly, part time	$75.00
Emory University School of Medicine, 69 Butler St., S. E., Atlanta, Ga. At: Emory University Hospital	Electrocardiography	February 8-10, full time	60.00
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Personal Course in Electrocardiography and Heart Disease	February 10, 10 days, part time	150.00
	Intensive Course in Electrocardiography and Heart Disease	March 14 and July 12, 2 weeks, full time	150.00
Beth Israel Hospital, Boston, Mass.	"Ekg Clinics" Course "C"	March 1-5, full time	100.00
	"Ekg Clinics" Course "D"	March, April, and May, 10 weeks once weekly, part time	100.00
Tufts College Medical School, Postgraduate Division, 171 Harrison Ave., Boston 11, Mass.[12] At: New England Center Hospital	Electrocardiography II	January 11-13, full time	25.00
University of Michigan Medical School, Ann Arbor At: University Hospital	Electrocardiographic Diagnosis	March 22-27, full time	75.00
University of Minnesota Center for Continuation Study, Minneapolis 14	Electrocardiography for General Physicians	May 10-15, full time	10.00
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32 At: Mt. Sinai Hospital	Medicine PM 41 Intensive Course in Elementary Electrocardiography	January 4-9, full time	60.00
	Medicine PM 42 Intensive Course in Advanced Electrocardiography	January 4-9, full time	60.00
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York	Electrocardiography	Arranged, 2 weeks, part time	100.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19	Electrocardiographic Interpretation	Arranged, 2 weeks, part time	75.00
New York State Department of Health, Albany At: New York University-Bellevue Medical Center	Electrocardiography	Spring, 5 days, full time	75.00
New York State Department of Health, Albany 1, N. Y.[7] At: Mount Sinai Hospital	Electrocardiography (Elementary)	January, 1 week, full time	60.00
	[illegible]	January, 1 week, full time	60.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16		March 29-April 2, full time	75.00
		April 15-June 3, part time	40.00
Queens County Medical Society Graduate Education Committee, 112-25 Queens Blvd., Forest Hills, N. Y.	Clinical Electrocardiography	Arranged, 2 days, part time	25.00
University of Oklahoma School of Medicine, 800 N. E. 13th St., Oklahoma City	Electrocardiography	March 1-6, full time	60.00
University of Pennsylvania Graduate School of Medicine, Philadelphia 4	Electroencephalography	Arranged, 2 weeks, full time	200.00
At: Philadelphia General Hospital	Graphic Methods Used in Cardiovascular Diagnosis with Particular Emphasis on Electrocardiography	January 13-March 10, once weekly, part time	50.00
University of Texas Postgraduate School of Medicine, Temple At: Scott and White Memorial Hospitals; Scott, Sherwood and Brindley Foundation	Electrocardiology	Arranged, 2 weeks, full time	25.00
University of Texas Postgraduate School of Medicine, Texas Medical Center, 1400 Outer Belt Dr., Houston 25 At: Shannon West Texas Memorial Hospital, San Angelo	Fundamentals of Electrocardiography	January-May, once weekly, part time	20.00
University of Utah, Division of Graduate and Postgraduate Medical Education, 175 E. 21st St. S., Salt Lake City At: Salt Lake County General Hospital	Recent Advances in Clinical Electrocardiography	January 5-March 9, once weekly, part time	30.00

ENDOCRINOLOGY

Institution	Title of Course	Schedule of Course	Registration Fe and/or Tuition
College of Medical Evangelists, 312 N. Boyle Ave., Los Angeles 33	Endocrinology	April 6-May 25, once weekly, part time	30.00
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15 At: *Massachusetts General Hospital*	*Endocrine and Metabolic Disorders in Children and Adolescents*	June 23-25, full time	50.00
At: New England Deaconess Hospital	Diabetes and Endocrinology in Relation to General Medicine	July, 3 days, full time	30.00
University of Michigan Medical School, Ann Arbor At: University Hospital	Metabolism and Endocrinology	March 29-April 2, full time	50.00
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich.	Endocrinology	March 13, 12 weeks, part time	15.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16[1] At: Kings County Hospital	Metabolic Endocrinology	April, once weekly, 12 weeks part time	30.00
At: Jewish Hospital	Medical and Gynecologic Endocrinology	April, once weekly, 10 weeks, part time	20.00
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York	Endocrinology	Spring, 2 weeks, full time	100.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	549-A Endocrinology	April 12-June 4, part time	40.00
University of Buffalo School of Medicine, 24 High St., Buffalo, N. Y.	Endocrinology	May 19-20, full time	25.00

ENDOSCOPY

Institution	Title of Course	Schedule of Course	Registration Fe and/or Tuition
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Bronchoscopy	Arranged, 1 week, full time	100.00
	Clinical Bronchoscopy	March 24, 8 days, part time	150.00
University of Illinois College of Medicine, 1853 W. Polk St., Chicago 12	Bronchoesophagology	March or April, 2 weeks, full time	150.00
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32 At: Columbia Presbyterian Medical Center	Otolaryngology PM 1—Bronchoscopy	April 5-23, part time	250.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16[1] At: Greenpoint Hospital	Gastroscopy	April, once weekly, 6 weeks, part time	30.00
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York	Gastroscopy	Arranged, 2 weeks, part time	200.00
	Gastroscopy (Advanced)	Arranged, 20 hours, part time	200.00
New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	Bronchoscopy	Arranged, 4 weeks, part time	150.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	595-A Endoscopy: Bronchoesophagology and Laryngology	January 18-22, full time	100.00
Temple University School of Medicine, 3400 N. Broad St., Philadelphia 40, Pa.	Bronchoesophagology	February 1-12, full time	250.00
University of Pennsylvania Graduate School of Medicine, Philadelphia 4	Bronchology, Esophagology, and Laryngeal Surgery	January and June, 2 weeks, full time	250.00

References will be found on page 1399.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1954, to July 15, 1954—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	FRACTURES		
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Intensive Course in Fractures and Traumatic Surgery	March 1 and June 14, 2 weeks, full time	$150.00
	Clinical Course in Fractures	Arranged, first of every week, 1 or 2 weeks, full time	50.00 per week
	Special Course in Fractures	March 24, 10 days, part time	125.00
John Gaston Hospital, 860 Madison Ave., Memphis, Tenn.	Management of Simple Fractures	April 7-9, full time	50.00
	GASTROENTEROLOGY		
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Gastroenterology	May 17, 2 weeks, full time	100.00
	Advanced Course in Gastroscopy and Gastroenterology	Arranged, 1 week, full time	150.00
	Personal Course in Gastroscopy and Gastroenterology	Arranged, 2 weeks, full time	200.00
University of Michigan Medical School, Ann Arbor At: University Hospital	Diseases of the Gastro-Intestinal Tract	April 26-May 1, full time	60.00
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich. At: Receiving Hospital	Gastroenterology Clinic	Every quarter, 12 weeks, part time	15.00
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32 At: Montefiore Hospital	Medicine PM 73—Advanced Gastroenterology	January 19-May 11, part time	75.00
	Medicine PM 45—Intensive Course in Gastroenterology	April 5-9, full time	60.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16[1] At: Jewish Hospital	Gastroenterology	April, 3 times weekly, 7 weeks, part time	20.00
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York	Gastroenterology	Arranged, Spring, 1 month, full time	100.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19	Clinical Gastroenterology	Arranged, 6 weeks, part time	75.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	5411-A Gastroenterology	April 14-June 2, part time	40.00
Queens County Medical Society Graduate Education Committee, 112-25 Queens Blvd., Forest Hills, N. Y.	Clinical Gastroenterology	January, 15 weeks, part time	25.00
Starlight Plan for Postgraduate Study, Wayne County, Starlight, Pa.	Gastroenterology	July and August, 5 days, part time	15.00 daily
University of Pennsylvania Graduate School of Medicine, Philadelphia 4 At: Children's Hospital	The Diagnosis and Management of Disorders of the Gastrointestinal Tract in Infancy and Childhood	June 1-3, full time	60.00
University of Texas Postgraduate School of Medicine, Texas Medical Center, 1400 Outer Belt Dr., Houston 25 At: Auditorium, M. D. Anderson Hospital	Gastroenterology	January 12-March 30, once weekly, part time	25.00
University of Utah, Division of Graduate and Postgraduate Medical Education, 175 E. 21st St. S., Salt Lake City At: Salt Lake County General Hospital	Gastroenterology	February 10-12, full time	30.00
	GERIATRICS		
New York University Post-Graduate Medical School, 477 First Ave., New York 16	5426-B Geriatrics	January 27-29, full time	30.00
	HEMATOLOGY		
Florida State Board of Health, Department of Medicine, 1625 Riverside Ave., Jacksonville[94] At: Jacksonville	Seminar on Hematology	July 8-10, full time	25.00
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Hematology	June 14, 1 week, full time	100.00
University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City 12[99]	Peripheral Blood and Bone Marrow Study	March 11-12, full time	25.00
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich.	Advanced Hematology	March 8, 12 weeks, part time	50.00
	Beginning Hematology	March 13, 12 weeks, part time	50.00
	Blood	January 1-June 12, once weekly, part time	30.00
At: Receiving Hospital	Review of Clinical Hematology	January 1-March 13, once weekly, part time	15.00
	Hematology Clinic	January 1-March 13, once weekly, part time	15.00
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32 At: Mt. Sinai Hospital	Medicine PM 28—Laboratory Methods in Hematology	March 1-25, full time	200.00
	Medicine PM 67—Advanced Hematology	February 9, May 25, part time	75.00
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York	Hematology	Arranged, 2 months, part time	50.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	546-B *Clinical* Hematology	April 13-June 3, part time	40.00
Albert Einstein Medical Center, Southern Division, 5th and Reed Sts., Philadelphia 47	Hematology	Spring, once weekly, 10 weeks, part time	75.00
University of Pennsylvania Graduate School of Medicine, Philadelphia 4 At: Bryn Mawr Hospital	Clinical and Laboratory Hematology	February and April, 6 weeks, full time	200.00
	HOSPITAL ADMINISTRATION		
Columbia University School of Public Health, 600 W. 168th St., New York 32	Master of Science in Hospital Administration[56]	September, 21 months, full time	1,045.00
	INDUSTRIAL MEDICINE		
Harvard University School of Public Health, 55 Shattuck St., Boston	Industrial Health	February 8-April 3, full time	225.00
University of Michigan School of Public Health, Ann Arbor	Industrial Health	February-May, full time	Varies
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32 At: School of Public Health	Occupational Medicine 202. The Occupational Diseases	February 1-March 27, part time	25.00
	Occupational Medicine 203. Industrial Medical Organization	March 29-May 22, part time	25.00

References will be found on page 1399.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1954, to July 15, 1954—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	INDUSTRIAL MEDICINE—Continued		
New York University Post-Graduate Medical School, 477 First Ave., New York 16	482-A Occupational Dermatoses	February 1-5, full time	$50.00
	483-A Industrial Medicine	May 10-15, full time	25.00
	484-A Medical Aspects of Compensation[58]	May 3-7, full time	25.00[67]
University of Cincinnati College of Medicine, Institute of Industrial Health, Eden Ave., Cincinnati 19, Ohio At: Kettering Laboratory	Industrial Medicine	July 1, 12 months, full time	400.00
	Industrial Medicine	July 1, 3 years, full time	Stipend
University of Pittsburgh Graduate School of Public Health, Pittsburgh 13	Industrial Noise Problems	January and February, 8 sessions, once weekly, full time	25.00
	Pulmonary Dust Diseases	March and April, 8 sessions, once weekly, full time	25.00
	INTERNAL MEDICINE		
College of Medical Evangelists, 312 N. Boyle Ave., Los Angeles 33	Differential Diagnosis of Internal Diseases	January 5-March 30, once weekly, part time	50.00
	Varicose Veins	March 2-April 13, once weekly, part time	25.00
University of California School of Medicine, Medical Extension, Medical Center, San Francisco 22	Diagnositic Exfoliative Cytology	February 8-19, full time	Not given
	Symposium on Heart and Lung	February 19-21, full time	Not given
	Photomicrography (Part II)	April 1-June 3, once weekly, part time	Not given
	Symposium on Emergencies: Medical, Surgical and Obstetrical	April 16-18, full time	Not given
	Internal Medicine[13]	June 14-18, full time	Not given
University of Southern California, School of Medicine, 1200 N. State St., Los Angeles 33	812 Recent Advances in Internal Medicine	Arranged, 6-12 weeks, part time	[100]
	813 Recent Advances in Diagnosis and Treatment	Arranged, 6-12 weeks, part time	[100]
American College of Chest Physicians, 112 E. Chestnut St., Chicago 11[14] At: University of California Medical School, San Francisco	Practical Considerations in Diseases of the Heart and Lungs	February 19-21, full time	Not yet determined
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Intensive Course in Liver and Biliary Tract Diseases	June 7, 1 week, full time	100.00
	Intensive Course in Internal Medicine	May 3, 2 weeks, full time	125.00
Tulane University, Division of Graduate Medicine, 1430 Tulane Ave., New Orleans, La.	Internal Medicine for General Practitioners	March 22-27, full time	Not given
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15 At: Boston City Hospital	Internal Medicine 2	June 1-August 31, full time	375.00
At: Massachusetts General Hospital	Internal Medicine 3	June 21-July 31, full time	250.00
University of Michigan Medical School, Ann Arbor At: University Hospital	Clinical Internal Medicine	January 7-April 15, 14 days, part time	35.00
	Rheumatic Diseases	April 12-17, full time	50.00
	Diseases of Blood and Blood-Forming Organs	April 19-24, full time	50.00
	Recent Advances in Therapeutics	May 3-8, full time	25.00
Wayne University College of Medicine, 1512 St. Antoine St., *Detroit, Mich.* At: Receiving Hospital	Medical Seminar	Every quarter, 12 weeks, part time	15.00
	Medical Conference	Every quarter, 12 weeks, part time	15.00
University of Minnesota Center for Continuation Study, Minneapolis 14	Recent Advances in the Basic Sciences for *Internists*	February 15-17, full time	25.00
Clifton Springs Sanitarium and Clinic, Clifton Springs, N. Y.[9]	Recent Advances in Internal Medicine	February, 3 days, full time	None
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32 At: Montefiore Hospital	Medicine PM 72. Neoplastic Diseases	February 2-June 1, part time	150.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16[1] At: Jewish Hospital	Internal Medicine	April, once weekly, 8 weeks, part time	20.00
	Hypertension and Nephritis	April, once weekly, 8 weeks, part time	20.00
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York	Internal Medicine	Arranged, 1 month, full time	300.00
	Physical Diagnosis	Arranged, 40 hours, part time	100.00
	Applied Pharmacology and Therapeutics	Arranged, 20 hours, part time,	100.00
	Peripheral Vascular Disease	Arranged, 50 hours, part time	200.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19	General Practitioner's Course	Arranged, 4 weeks, full time	100.00
	General Medicine	Arranged, 4 weeks, full time	100.00
	Vascular Diseases	Arranged, part time	200.00
New York State Department of Health, Albany At: New York University-Bellevue Medical Center	Peripheral Vascular Disease	Spring, 5 days, full time	50.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	5427-B Auscultation of the Heart	February 1-3, full time	50.00
	5420-B Normal and Pathological Physiology	March 1-12, full time	100.00
	547-A Problems in Diagnosis	April 12-May 24, part time	35.00
	541-A Seminar in Internal Medicine	April 12-June 4 full time	250.00
	5413-A Peripheral Vascular Diseases	April 13-June 1, part time	40.00
	544-A Arthritis and Allied Rheumatic Disorders	April 13-June 1, part time	50.00
	545-A Normal and Pathological Physiology: Functional and Chemical Aspects	April 14-June 2, part time	40.00
	5410-A Diseases of the Liver and Biliary Tract	April 14-June 2, part time	35.00
	5412-A Nephritis and Hypertension	April 16-June 4, part time	30.00
	5418-B Peripheral Vascular Diseases	June 7-11, full time	50.00
	5419-A Symposium on Modern Therapeutics in Internal Medicine[60]	June 14-25, full time	[60]
University of North Carolina School of Medicine, Extension Division, P. O. Box 1020, Chapel Hill At: Wilson	Postgraduate Course in Medicine	January 12, 19, and 26, February 2, 16, and 23, 6 weeks, part time	20.00
At: Rowan Memorial Hospital, Salisbury	Clinical Seminars	January 13, February 10, March 10, April 14, May 12, 1 day, full time	Not given
At: Roanoke-Chowan Hospital, Ahoskie; Chowan Hospital, Edenton; Virginia Dare Hotel, Elizabeth City	Postgraduate Course in Medicine	Ahoskie—January 13, February 3; Edenton—January 20, February 17; Elizabeth City—January 27, February 24, 6 weeks, part time	20.00

References will be found on page 1399.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1954, to July 15, 1954—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	INTERNAL MEDICINE—Continued		
University of Pennsylvania Graduate School of Medicine, Philadelphia 4	Applied Aspects of Calcium and Phosphorus Metabolism	May 24-25, full time	$40.00
	Surgical Problems in General Practice	March 16-18, full time	60.00
At: Graduate Hospital and Private Offices	Pain Syndromes: Diagnosis and Treatment by Regional Block	January-May, 3 weeks, full time	200.00
Starlight Plan for Postgraduate Study, Wayne County, Starlight, Pa.	Hypertension—Nephritis	July and August, 5 days, part time	15.00 daily
University of Texas, The Postgraduate School of Medicine, Galveston [15]			
At: Southwestern Medical School of The University of Texas	Systemic Mycoses	January 18-20, full time	35.00
University of Texas Postgraduate School of Medicine, Temple 44	Medical and Surgical Conference	March 1-3, full time	15.00
University of Utah, Division of Graduate and Postgraduate Medical ducation, 175 E. 21st St. S., Salt Lake City			
At: Salt Lake County General Hospital	Disorders of the Peripheral Circulation	March 4-6, full time	80.00
Mary Fletcher Hospital, Burlington, Vt.	Internal Medicine [61]	Time and length of course by arrangement	None
University of Washington School of Medicine, Seattle 5 [4]	Fluid and Electrolyte Balance	June, 2½ days, full time	Undetermined
University of Wisconsin School of Medicine, 418 N. Randall Ave., Madison	Continuation Course	Arranged, one month, full time	100.00
	MALIGNANT DISEASE		
Connecticut State Medical Society, 160 St. Ronan St., New Haven			
At: Hotel Taft	Cancer Teaching Day	March, full time	None
Indiana University School of Medicine, Indianapolis	Annual Symposium on Malignancy	April 7, full time	None
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich.			
At: Yates Clinic	Cancer Detection	Every quarter, 12 weeks, part time	25.00
University of Minnesota Center for Continuation Study, Minneapolis 14	Cancer Detection for General Physicians	February 10-11, full time	15.00
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32 [16]			
At: Columbia Presbyterian Medical Center	Cancer PM 1. Cancer Diagnosis and Treatment	April 19-May 1, full time	100.00
Cornell University Medical College, 1300 York Ave., New York 21	Exfoliative Cytology (Cytologic Diagnosis of Cancer)	March 1-28, full time	800.00
New York State Department of Health, Albany [17]			
At: Sloan-Kettering Division, Cornell Medical College	Cancer Diagnosis and Treatment	March 8-12, full time	[63]
At: College of Physicians and Surgeons, Columbia University	Cancer PM 1. Cancer Diagnosis and Treatment	April 19-May 1, full time	[63]
At: Memorial Center for Cancer and Allied Diseases, New York City [18]	Cancer Diagnosis and Treatment	March 8-12, full time	60.00
Mellon Institute, Fifth and Bellefield Ave., Pittsburgh 13, Pa.[19]	Postgraduate Seminar on Cancer	April, 2 days, part time	5.00
University of Puerto Rico School of Medicine, San Juan [20]			
At: Throughout the Island	Cancer	Arranged, 10 hours, part time	None
Medical College of South Carolina, Charleston [21]	Refresher Course in Cancer	March, 1½ days, full time	None
Tennessee State Medical Association, 4 S. Dunlap St., Memphis [22]			
At: Five teaching centers in eastern section of Tennessee	Cancer	Spring, 5 days, full time	None
University of Texas Postgraduate School of Medicine, 1400 Outer Belt Dr., Houston			
At: Anderson Hospital for Cancer Research	Eighth Annual Symposium on Fundamental Cancer Research	Spring, 2 days, full time	Not given
University of Vermont College of Medicine, Burlington [23]	Cancer Symposium	April, 2 days, full time	None
	MEDICINE, GENERAL		
Alabama Academy of General Practice, 17 Moulton St., Montgomery			
At: Medical College of Alabama, Birmingham	Eighth Postgraduate Seminar	January 26, full time	None
Black Belt Postgraduate Seminar, Selma, Ala.[24]	Postgraduate Seminars	Quarterly	None
Central Alabama Postgraduate Medical Assembly, Montgomery [24]	Postgraduate Seminars	Bi-monthly	None
Marion County Medical Association, Winfield, Ala.[24]	Postgraduate Seminars	Quarterly	None
Medical College of Alabama, 620 S. 20th St., Birmingham	Postgraduate Assembly	January, 2 days, full time	None
Tuskegee Institute, Tuskegee Institute, Ala.			
At: John A. Andrew Memorial Hospital	John A. Andrew Clinical Society	April, 6 days, part time	10.00
Arizona Medical Association, 541 Security Bldg., Phoenix, Ariz.[25]			
At: Yuma, Douglas, Safford, and Florence	Seminars for Practicing Physicians	February, 1 day, full time	None
California Medical Association, 1036 N. Center St., Stockton			
At: Santa Rosa	North Coast Counties, Medical and Surgical Institute	February 11-12, full time	10.00
At: Fresno	San Joaquin Valley Counties, Medical and Surgical Institute	March 4-5, full time	10.00
At: Cottage Hospital, Santa Barbara	West Coast Counties, Medical and Surgical Institute	March 18-19, full time	10.00
At: Tuesday Club, Sacramento	Sacramento Valley Counties, Medical and Surgical Institute	April 1-2, full time	10.00
At: Hotel, Palm Springs	Southern Counties, Medical and Surgical Institute	April 22-23, full time	10.00
At: Regular Meetings of County Societies	Postgraduate Lectures	Monthly, part time	None
Mercy Hospital, Hillcrest Dr., San Diego 3, Calif.[26]	Recent Advances in Medicine and Surgery	March, once weekly, part time	None
San Diego Academy of Medicine, 2409 4th Ave., San Diego, Calif.			
At: El Cortez Hotel	Scientific Meetings—Postgraduate in Nature	6 to 8 times yearly, 4 hours, part time	Dues only
San Diego County General Hospital, Front and Dickerson Sts., San Diego, Calif.	Postgraduate Assembly	September, full time	None
University of California School of Medicine, Medical Extension, Medical Center, San Francisco 22	Course for General Practitioners	March 8-12, full time	Not given
Colorado State Medical Society, 835 Republic Bldg., Denver			
At: Shirley Savoy Hotel	Midwinter Postgraduate Clinics [64]	February 16-19, full time	5.00
University of Colorado Medical Center, Office of Graduate and Postgraduate Medical Education, 4200 E. Ninth Ave., Denver	Colorado Medical Alumni Clinics [27]	June 4, full time	None
	Fifth Annual Intern and Resident Clinics	June 10-11, full time	None
At: Weld County Hospital, Greeley [28]	Fourth Annual Spring Clinics	May 7, 14, 21, 28, part time	None
Florida State Board of Health, Department of Medicine, 1625 Riverside Ave., Jacksonville [24]			
At: Hotel George Washington, Jacksonville	22d Annual Graduate Short Course	July 12-16, full time	10.00
At: Gainesville	Seminar on Medicine and Surgery	January 27, full time	None

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Postgraduate Continuation Courses for Physicians—Jan. 1, 1954, to July 15, 1954—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
MEDICINE, GENERAL—Continued			
Mount Sinai Hospital of Greater Miami, 4300 Alton Rd., Miami, Fla.	1954 Fourth Annual Postgraduate Medical Seminar	May 21-23, full time	$20.00
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Personal Course in General Medicine	March 24, 10 days, part time	100.00
	Course in Medical Emergencies, Diagnosis and Treatment	March 24, 10 days, part time	100.00
Illinois Academy of General Practice, 14 E. Jackson Blvd., Chicago 4			
At: Alton, Belleville, Chicago, Danville, Decatur, Effingham, Elmhurst, Geneva, Joliet, Moline, Peoria, Herrin and Rockford	Medicine for Today	April 13-May 21, once weekly, part time	10.00
Vanderburgh County Medical Society, Committee on Postgraduate Education, 201 S. E. Third St., Evansville, Ind.	Tri-State Postgraduate Medical Assembly	Spring, 1 day, full time	None
New Orleans Graduate Medical Assembly, Room 103, 1430 Tulane Ave., New Orleans 12, La.	Graduate Medical Assembly	March 8-11, full time	20.00
Baltimore City Medical Society, 1211 Cathedral St., Baltimore, Md.			
At: University of Maryland and The Johns Hopkins Hospital	Postgraduate Courses	January-April, 8 hours monthly, part time	None
Postgraduate Medical Institute, 22 The Fenway, Boston, Mass.[29]			
At: Burbank Hospital, Fitchburg	Postgraduate Courses	January 6, February 10, March 17, part time	10.00
At: Children's Medical Center and Boston Lying-In Hospital	General Medicine	January 6, 13, 20, and 27, February 3, 10, 17, and 24, March 3, 10, 17, 24, and 31, April 14, part time	75.00
At: Marlboro, Framingham, Union, Leonard Morse at Natick, and Milford Hospitals	General Medicine	January 13, February 17, March 17, April 14, and May 12, part time	25.00
At: Truesdale, St. Anne's, and Union Hospitals, Fall River	General Medicine	March 10, 17, 24 and 31, April 14	30.00
University of Michigan Medical School, Ann Arbor[30]			
At: Alpena, Bay City, Cadillac, Flint, Jackson, Lansing, Mt. Clemens, Muskegon, Battle Creek, Traverse City Upper Peninsula: Escanaba, Houghton, Iron Mountain, Ironwood, Marquette, Menominee, Sault Ste. Marie	Michigan Program for Graduates in Medicine	April-May, one day, full time	None
University of Minnesota Center for Continuation Study, Minneapolis 14	Forensic Medicine	March 8-10, full time	25.00
American Academy of General Practice, 406 W. 34th St., Kansas City, Missouri			
At: Public Auditorium, Cleveland, Ohio	Sixth Annual Scientific Assembly	March 22-25, full time	5.00 [65]
Homer G. Phillips Alumni Association, 2601 N. Whittier St., St. Louis, Mo.			
At: Homer G. Phillips Hospital	Post Graduate Clinical Conference	April 26-30, full time	20.00
Creighton University School of Medicine, 306 N. 14th St., Omaha 2[27]	Spring Medical Assembly	April, 2½ days, full time	5.00-10.00
Atlantic City Hospital, 26 S. Ohio Ave., Atlantic City, N. J.	Visiting Chief Program	Arranged, 5 days, part time	None
Duke Hospital, Durham, N. C.	Medical Postgraduate Course	Arranged, 4 days, full time	25.00
Tri-State Medical Association, 122 S. Greene St., Greensboro, N. C.[31]	Medical Assembly	February 2-3, full time	None
University of Cincinnati College of Medicine, Eden and Bethesda Aves., Cincinnati 19			
At: Hotel Alms	Seminar Series for General Physicians	February 7 and March 14, part time	[105]
Jefferson Medical College and Hospital, 1025 Walnut St., Philadelphia 7[27]	The Jefferson Graduate Assembly	February 3-5, full time	10.00
Philadelphia County Medical Society, 301 S. 21st St., Philadelphia 3			
At: Bellevue-Stratford Hotel	Postgraduate Institute	March 30-April 2, full time	10.00 non-members
Anderson County Medical Society, Anderson, S. C.			
At: The Clemson House, Clemson, S. C.	Piedmont Postgraduate Clinical Assembly	September 15-16	7.50
Tennessee State Medical Association, Committee on Postgraduate Instruction, University Center, Memphis[32]			
At: In more than 40 teaching centers throughout state	Postgraduate Course	Every 2 years, 10 lectures in each teaching center	20.00
International Medical Assembly of Southwest Texas, P. O. Box 2445, San Antonio			
At: Municipal Auditorium	International Medical Assembly of Southwest Texas	January 26-28, full time	20.00
Postgraduate Medical Assembly of South Texas, 229 Medical Arts Bldg., Houston			
At: The Shamrock Hotel	Postgraduate Medical Assembly of South Texas	July 19-21, full time	20.00
University of Texas Postgraduate School of Medicine, Texas Medical Center, 1400 Outer Belt Dr., Houston 25			
At: Shannon West Texas Memorial Hospital, San Angelo	Shannon Clinical Seminars	January-May, once weekly, part time	20.00
University of Utah, Division of Graduate and Postgraduate Medical Education, 175 E. 21st St. S., Salt Lake City			
At: Salt Lake County General Hospital	General Practice	March 15-19, full time	50.00
Utah Academy of General Practice, 3007 Highland Dr., Salt Lake City			
At: University of Utah College of Medicine	Postgraduate Course in General Practice	March 15-19, full time	50.00
Vermont State Medical Society, 128 Merchants Row, Rutland			
At: Mary Fletcher and DeGoesbriand Hospitals	May Clinical Meeting[66]	May, 1 day, full time	None
University of Washington School of Medicine, Seattle 33,[31]	*General Practice Clinic Day*	*April 2, full time*	None
MILITARY MEDICINE			
Army Medical Service Graduate School, Washington 12, D. C.			
At: Walter Reed Army Medical Center	Recent Advances in Medicine and Surgery[67,68,69]	April 19-30, full time	None
NATIONAL DEFENSE			
Army Medical Service Graduate School, Washington 12, D. C.			
At: Walter Reed Army Medical Center	Symposium on Physical and Mental Health Standards[67,68,69,71]	April 16-17, full time	None
NEUROLOGICAL SURGERY			
New York University Post-Graduate Medical School, 477 First Ave., New York 16	552-A Diagnosis and Treatment of Peripheral Nerve Injuries	January 11-15, full time	90.00
	553-A Trauma of Central Nervous System	June 14-19, full time	75.00

References will be found on page 1399.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1954, to July 15, 1954—Continued

NEUROLOGY AND PSYCHIATRY

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
Institute for Psychoanalytic Medicine of Southern California, 226 N. Conon Dr., Beverly Hills, Calif.	Psychoanalysis [74,75]	Arranged, weekly, part time	$40.00
	Seminars in Psychoanalytic Medicine [76]	Arranged, 8 sessions, part time	40.00
	Psychological Problems in Obstetrics [76]	Arranged, 8 sessions, part time	40.00
Los Angeles Institute for Psychoanalysis, 334 N. Bedford Dr., Beverly Hills	Psychoanalysis [74,75]	Arranged, weekly, part time	10.00-30.00
	Seminar for Pediatricians [76]	Arranged, weekly, 6 weeks	15.00
Los Angeles Psychoanalysis Society, 344 N. Bedford Dr., Beverly Hills, Calif.	Professional Training in Psychoanalysis [72]	Arranged, part time	232.00
San Francisco Psychoanalytic Institute, 2355 Post St., San Francisco 15	Psychoanalysis [74,75]	Arranged, weekly, part time	150.00
Yale University School of Medicine, 333 Cedar St., New Haven, Conn.[35]	Connecticut Postgraduate Seminar in Psychiatry and Neurology—Child Psychiatry	March 8-April 12, 6 days, part time	Not stated
	Connecticut Postgraduate Seminar in Psychiatry and Neurology—Neurology	April 26-May 10, 3 days, part time	Not stated
At: Southbury Training School	Connecticut Postgraduate Seminar in Psychiatry and Neurology—Pediatric Psychiatry	April 19, part time	Not stated
At: Connecticut State Hospital	Postgraduate Seminar in Psychiatry and Neurology—Basic Psychiatry	January 4, March 1, 9 days, part time	Not stated
The Catholic University of America, Washington, D. C.	Psychodynamics I	February, 15 weeks, full time	40.00 [78]
	Child Psychiatry II	February, 15 weeks, part time	40.00 [78]
Washington Psychoanalytic Institute, 1835 Eye St., N. W., Washington, D. C.	Psychoanalysis [74,75]	Arranged, weekly, part time	30.00
Emory University School of Medicine, 69 Butler St., S. E., Atlanta, Ga.[5]			
At: Grady Memorial Hospital	Psychosomatic Medicine	February 4, full time	5.00
Chicago Institute for Psychoanalysis, 664 N. Michigan Ave., Chicago 11	Psychoanalysis [74,75]	Arranged, weekly to bi-weekly, part time	550.00
	Psychosomatic Case Demonstration [76]	Arranged, weekly, part time	None
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Personal Course in Clinical Neurology	March 24, 10 days, part time	100.00
	Personal Course in Neuropathology	Arranged	20.00 per hour
Topeka Institute for Psychoanalysis, 3617 W. 6th Ave., Topeka, Kan.	Psychoanalysis [74,75]	Arranged, weekly, part time	100.00
	Psychoanalysis and Its Contribution to the Understanding of Psychosis [76]	January-April, weekly, part time	36.00
	Special Problems in Child Analysis [76]	April-July, weekly, part time	36.00
	General Psychopathology [76]	January to May, 25 sessions, part time	75.00
	Psychiatry and Anthropology [76]	March 16-April 15, 10 sessions, part time	30.00
New Orleans Psychoanalytic Study Group, 3706 Prytania St., New Orleans 15, La.	Psychoanalysis [74,75]	Arranged, bi-weekly, part time	615.00
Baltimore Psychoanalytic Institute, 11 E. Chase St., Baltimore 2, Md.	Psychoanalysis [74,75]	Arranged, weekly to bi-weekly, part time	30.00-75.00
Boston Psychoanalytic Institute, 82 Marlborough St., Boston 6, Mass.	Psychoanalysis [74,75]	Arranged, weekly to bi-weekly, part time	325.00
Detroit Psychoanalytic Institute, 1130 Parker Ave., Detroit, Mich.	Psychoanalysis [74,75]	Arranged, weekly to bi-weekly, part time	2.50 per class hour
University of Michigan Medical School, Ann Arbor			
At: University Hospital	Clinical Neurology	March 8-10, full time	25.00
University of Minnesota Center for Continuation Study, Minneapolis 14	Neurology for General Physicians and Specialists	January 25-30, full time	40.00
	Child Psychiatry for General Physicians and Specialists	February 1-5, full time	40.00
American Institute for Psychoanalysis, 220 W. 98th St., New York 25	Continuous Case Seminar [81]	February 1, 15 weeks, full time	60.00
	The Practice of Group Psychoanalysis	February 2, 10 weeks, full time	30.00
	The Psychoanalytic Relationship [81]	February 4, 15 weeks, full time	60.00
	Clinical Conferences [81]	February 5, 10 weeks, full time	40.00
	Clinical Conferences on Case Histories I	February 9, 15 weeks, full time	45.00
	Psychiatry and Psychoanalysis	February 19, 15 weeks, full time	45.00
At: New School for Social Research	Psychoanalysis and Psychosomatic Medicine	February 1, 15 weeks, full time	21.00
	Pioneers in Psychoanalytic Thinking	February 2, 15 weeks, full time	21.00
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32			
At: Columbia Presbyterian Medical Center	Neurology PM 2 Clinical Electroencephalography and Electromyography	January 2, 3 months, full time	250.00
At: Mt. Sinai Hospital	Neurology PM 30 Clinical Neurology	March 29-April 2, full time	60.00
At: Montefiore Hospital	Neurology PM 61 Advanced Neurology	Arranged, 3 months, full time	150.00
Columbia University, Psychoanalytic Clinic, 630 W. 168th St., New York 32	Psychoanalysis [74,75]	Full time	870.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16 [1]			
At: Jewish Hospital	Child Psychiatry	April, once weekly, 10 weeks, part time	20.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29	Comprehensive Course in Psychoanalysis	January-April 23, part time	Varies
New York Psychoanalytic Institute, 247 E. 82d St., New York 28	Psychoanalysis 1, 2	Arranged, weekly, evenings, part time	375.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	643-A Treatment Methods in Psychiatry	January 11-March 6, part time	250.00
Postgraduate Center for Psychotherapy, 218 E. 70th St., New York 21	Seminar for Physicians (710)	January 5 and February 2, part time	None
	The Handling of Special Problems in Therapy (719)	January 22, 5 weeks, part time	15.00
	Principles of Diagnosis and Treatment in Children (813)	February 15, 4 weeks, part time	10.00
	Dynamics and Treatment of Marital Problems (814)	February 17, 5 weeks, part time	10.00
	Principles of Group Psychotherapy (401)	February 15, 12 weeks, part time	30.00
	Readings in Psychiatry and Allied Fields (405)	February 15, 15 weeks, part time	30.00
	The Development of Psychoanalytic Thinking (203)	February 17, 15 weeks, part time	40.00
	Adjunctive Measures in Psychotherapy (829)	February 18, 8 weeks, part time	15.00

References will be found on page 1399.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1954, to July 15, 1954—Continued

NEUROLOGY AND PSYCHIATRY—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
Postgraduate Center for Psychotherapy, 218 E. 70th St., New York 21	Clinical Psychiatry and Diagnosis (216)	February 18, 15 weeks, part time	$10.00
	Clinical Conferences: Character Disorders (217)	February 10, 10 weeks, part time	80.00
	Continuous Case Seminar (801)	February 19, 15 weeks, part time	40.00
	Psychopathology and Treatment of Wayward Youth (825)	March 25, 5 weeks, part time	10.00
Psychoanalytic Institute of the State University Medical Center at New York, 606 Winthrop St., Brooklyn 3	Psychoanalysis [74,75]	Arranged, weekly, part time	525.00
William Alanson White Institute of Psychiatry, Psychoanalysis and Psychology, 12 E. 86th St., New York 28	The Meaning of Culture	January-June, once weekly, part time	80.00
	Introduction to Philosophy	January-June, once weekly, part time	30.00
	Literature of Psychoanalysis, Part I	January-June, once weekly, part time	35.00
	Behavior and Brain Function	February-April, once weekly, part time	25.00
	Seminar on Psychoanalytic Orientation for Physicians	February-June, once weekly, part time	40.00
	Master Trends in Modern Society	February-June, once weekly, part time	80.00
	Comprehensive Course in Psychoanalysis for Psychiatrists	September 1954, 4-6 years, part time	750.00
Institute of the Philadelphia Association for Psychoanalysis, 111 N. 40th St., Philadelphia, Pa.	Psychoanalysis [74,75]	Arranged, bi-weekly, part time	435.00
	Application of Psychoanalysis to Psychiatry [77]	Arranged, bi-weekly, part time	425.00
	Application of Psychoanalytic Knowledge to Professional Disciplines Other Than Psychiatry [78]	Arranged, bi-weekly, part time	Arranged
Philadelphia Psychoanalytic Institute, Medical Tower, Suite 2908, 255 S. 17th St., Philadelphia 3	Psychoanalysis [74,75]	Arranged, bi-weekly, part time	250.00
	Educative Analysis [79]	Arranged, weekly, part time	275.00
	Psychodynamic Principles in Psychosomatic Medicine [80]	Arranged, 8 sessions, part time	10.00
Medical College of South Carolina, 16 Lucas St., Charleston [36]	Institute on Neurology and Psychiatry	April, 1 day, full time	None
University of Texas Postgraduate School of Medicine, Texas Medical Center, 1400 Outer Belt Dr., Houston 25, Texas			
At: Auditorium, Robert B. Green Hospital, San Antonio	Clinical Psychiatry	February 3, 6 weeks, part time	25.00
Seattle Training Center, 4033 E. Madison St., Seattle 2, Wash.	Psychoanalysis [74,75]	Arranged, weekly to bi-weekly, part time	35.00
University of Washington School of Medicine, Seattle 5 [4]	Practical Psychiatry	January 13-March 31, part time	40.00

OBSTETRICS AND GYNECOLOGY

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
College of Medical Evangelists, 312 N. Boyle Ave., Los Angeles 33	Management of Infertility	January 7-March 4, once weekly, part time	80.00
	Gynecology	March 24-May 26, once weekly, part time	30.00
Los Angeles Graduate School of Medicine, 1858 W. Washington Blvd., Los Angeles 7	Gynecology	Once weekly, 12 weeks, full time	60.00
Los Angeles Obstetrical and Gynecological Society, Los Angeles, Calif.			
At: Elks Club	Los Angeles Obstetrical and Gynecological Forum [82]	February 13-14, full time	20.00
Obstetrical and Gynecological Assembly of Southern California, 1930 Wilshire Blvd., Los Angeles 57			
At: Ambassador Hotel	Graduate Assembly	February 15-19, full time	85.00
University of Southern California School of Medicine, 1200 N. State St., Los Angeles 33	866 Recent Advances in Obstetrics, Gynecology and Pediatrics	Arranged, 6-12 weeks, part time	[100]
University of Colorado Medical Center, Office of Graduate and Postgraduate Medical Education, 4200 E. Ninth Ave., Denver 20	Postgraduate Course in Obstetrics and Gynecology	April 9-10, full time	10.05
George Washington University School of Medicine, 1335 H St., Washington 5			
At: George Washington University Hospital	Gynecology	March 1-5, full time	75.00
Grady Memorial Hospital, 36 Butler St., S. E., Atlanta, Ga.	Obstetrics [83]	Arranged, 6 months, full time	None
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12, Ill.	Vaginal Approach to Pelvic Surgery	March 1, March 29, May 3, June 7, 20 hours, full time	100.00
	Intensive Course in Gynecology	February 15, March 15, April 19, June 14, 2 weeks, full time	150.00
	Intensive Course in Obstetrics	March 1, March 29, June 7, 2 weeks, full time	150.00
	Personal Course in Office Gynecology	January 6, March 31, May 12, 4 days, part time	100.00
	Personal Course in Gynecologic Surgery	January 6, March 31, May 12, 5 days, part time	100.00
	Personal Course in General and Office Obstetrics	April 14, 4 days, part time	100.00
	Personal Course in Surgical Obstetrics	January 6, June 23, 4 days, part time	100.00
State University of Iowa College of Medicine, Iowa City [37]	Obstetrics and Gynecology	March or April, 1½ days, full time	10.00
Johns Hopkins University School of Medicine, 710 N. Washington St., Baltimore	Gynecological Pathology	February 1, 8 weeks, full time	150.00
University of Maryland School of Medicine, 29 S. Greene St., Baltimore 1			
At: University Hospital	Gynecology, Oncology and Female Urology [84]	Time arranged, 10 weeks, full time	125.00
	Gynecology and Obstetrics [84]	Arranged, 12 weeks, full time	150.00
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15			
At: Free Hospital for Women	Pathology of Obstetrics and Gynecology	January 7-May 13, part time	150.00
	Gynecology 2	June, July, August, September, 1 month, full time	150.00
At: Boston Lying-in Hospital	Clinical Obstetrics	April and May, 1 month, full time	150.00
University of Michigan Medical School, Ann Arbor			
At: Maternity Hospital	Obstetrics	January 20-23, full time	50.00
	Gynecology	February 24-27, full time	50.00
University of Minnesota Center for Continuation Study, Minneapolis 14	Conference on Sterility and Fertility for General Physicians and Specialists	February 18-20, full time	25.00
Seton Hall University School of Education, 31 Clinton St., Newark 2, N. J.[101]			
At: Seton Hall Campus, South Orange	Gynecological Pathology	February 13, once weekly, part time	100.00
	Gynecology	February 20, once weekly, part time	100.00

References will be found on page 1399.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1954, to July 15, 1954—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
OBSTETRICS AND GYNECOLOGY—Continued			
Columbia University College of Physicians and Surgeons, 630 W 168th St., New York 32 At: Margaret Hague Maternity Hospital, Jersey City, N. J.	Obstetrics PM 81 Observation Course	One month, first of each month, full time	$100.00
	Obstetrics PM 80 Internship Training	Three months, first of each month, full time	250.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19	Gynecology and Obstetrics Including Manikin Obstetrics and Operative Gynecology (Cadaver)	April, 2 months, full time	250.00
	Clinical Course in Office and General Obstetrics	Arranged, 4 weeks, part time	100.00
	Clinical Gynecology	Arranged, 6 weeks, part time	75.00
	Manikin Obstetrics	Arranged, 6 weeks, part time	100.00
	Clinical and Operative (Cadaver) Gynecology	Arranged, 6 weeks, part time	175.00
	Culdoscopy	Arranged, 6 sessions, part time	100.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	569-B Surgical Anatomy as Applied to Gynecology	February 23-March 20, part time	175.00
	563-A Technique of Gynecological Examination	March 22-April 23, part time	75.00
	567-B Gynecological Endocrinology	April 27-June 19, part time	125.00
	568-B Gynecological Cytology (for Specialists)	April 27-June 17, part time	100.00
At: Beth Israel Hospital	734-B Gynecology (for Specialists)	February 1-May 21, part time	250.00
University of Buffalo School of Medicine, 24 High St., Buffalo, N. Y.	Obstetrics and Gynecology	February 10-11, full time	25.00
University of Oklahoma School of Medicine, 800 N. E. 13th St., Oklahoma City	Obstetrics-Gynecology	January 16, full time	5.00
Tennessee State Medical Association, 4 S. Dunlap St., Memphis [32] At. Fifteen teaching centers in middle and east Tennessee	Circuit Courses in Obstetrics	Continuously, 10 weeks, full time	20.00
University of Texas Postgraduate School of Medicine, Temple At: Scott and White Memorial Hospital; Scott, Sherwood, and Brir	Obstetrics	Arranged, 2 weeks, full time	25.00
University of Texas 'dicine, Texas Medical Center, 14(25 At: M. D. Ande Research and St. Joseph's Hospital	Wet Clinics in Gynecology	January 8-March 12, once weekly, part time	80.00
University of Washington School of Medicine, Seattle 5 [4]	Obstetrics and Gynecology	April 7-9, full time	30.00
OPHTHALMOLOGY AND OTOLARYNGOLOGY			
College of Medical Evangelists, 312 N. Boyle Ave., Los Angeles 33	Otolaryngology	February 9-March 30, once weekly, part time	80.00
	Histology and Histopathology of the Eye	March 3-June 9, once weekly, part time	60.00
Research Study Club of Los Angeles, 727 W. Seventh St., Los Angeles, Calif. At: Elk's Club	Twenty-Third Annual Mid-Winter Postgraduate Clinical Convention	January 18-29, full time	100.00
University of California School of Medicine, Los Angeles At: Campus and San Diego	Office Otolaryngology	April 28, full time	17.50
University of California School of Medicine, Medical Extension, Medical Center, San Francisco 22 [38]	Didactic Resident Course in Ophthalmology	January-May, full time	*Not given*
Chicago Ophthalmological Society, 8 W. Oak St., Chicago 10	Clinical Conference	February 5-6, full time	35.00
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Clinical Course in Otolaryngology	Arranged, first of every week, 2 weeks, full time	50.00
	Clinical Course in Ophthalmology	Arranged, first of every week, 2 weeks, full time	50.00
Northwestern University Medical School, 303 E. Chicago Ave., Chicago 11	Audiology for Practicing Otologists	May 3-8, full time	100.00
	Diagnosis and Treatment of Ocular Muscle Anomalies	September, 1 week, full time; 2 weeks, part time	100.00 150.00
University of Illinois College of Medicine, 1853 W. Polk St., Chicago 12 At: Illinois Eye and Ear Infirmary	Postgraduate Course in Ophthalmology [85]	July 1, December 1, 6 months, full time	500.00
State University of Iowa *College of Medicine*, Iowa City	Ophthalmology Conference	Arranged, monthly, 1 day, full time	*None*
University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City 12	Postgraduate Course in Ophthalmology and Otolaryngology [90]	April 5-9, full time	40.00
	Temporal Bone Surgery	June 25-28, full time	75.00
Harvard Medical School, 25 Shattuck St., *Boston* [39]	Basic Sciences in Ophthalmology	January 1-February 28, full time	150.00 *per month*
Ophthalmic Study Council, 243 Charles St., Boston At: Colby College, Waterville, Maine	Lancaster Courses in Ophthalmology [86]	June, 11 weeks, full time	325.00
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15 At: Harvard Medical School and Massachusetts Eye and Ear Infirmary	Clinical Ophthalmology and Ocular Pathology	January 4-30, full time	150.00
	Audiology	February 1-13, full time	125.00
	Fundamentals in Refraction and Ocular Motility	February 1-27, full time	150.00
	Anatomy of the Temporal Bone	February 15-March 27, full time	300.00
University of Michigan Medical School, Ann Arbor	Ophthalmology	April 19-21, full time	50.00
University of Minnesota Center for Continuation Study, Minneapolis 14	Eye, Ear, Nose, and Throat for General Physicians	April 5-7, full time	25.00
	Otolaryngology for Specialists	June 21-26, full time	40.00
Hansel Foundation, 1229 Missouri Theatre Bldg., St. Louis 3 At: Sheraton Hotel	Allergy in Otolaryngology	June 7-11, full time	150.00
American Academy of Plastic Surgery for Head and Neck, 307 Second Ave., New York 3 At: Manhattan General Hospital	Otolaryngologic Plastic Surgery	September, 3 weeks, full time	250.00
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32 At: Mt. Sinai Hospital	Ophthalmology PM 43 Symposium in Ophthalmology	April 26-May 1, full time	125.00
	Otorhinology PM 31 (Rhinoplasty, Reconstructive Surgery of the Nasal Septum, and Otoplasty)	July 17-31, full time	250.00
At: Montefiore Hospital	Ophthalmology PM 60 Elementary Ophthalmoscopy	January 4-March 1, part time	30.00
	Ophthalmology PM 61 Perimetry	April 5-May 17, part time	30.00

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Postgraduate Continuation Courses for Physicians—Jan. 1, 1954, to July 15, 1954—Continued

OPHTHALMOLOGY AND OTOLARYNGOLOGY—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
New York Eye and Ear Infirmary, 218 Second Ave., New York	External Diseases of the Eye	Arranged, 4 weeks, part time	$75.00
	Histo-Pathology of the Eye	May or June, 6 days, full time	100.00
	Physiological Optics in Clinical Practice	Arranged, 6 weeks, part time	100.00
	Plastic Eye Surgery	Arranged, 4 weeks, part time	150.00
	Anomalies of Extraocular Muscles	Arranged, 4 weeks, part time	75.00
	Slit Lamp Microscopy	Arranged, 4 weeks, part time	100.00
	Ophthalmoscopy	Arranged, 4 weeks, full time	75.00
	Glaucoma	Arranged, 8 weeks, full time	75.00
	Resuscitation	Arranged, 1 day, full time	50.00
	Operative Eye Surgery	Arranged, 4 weeks, part time	150.00
	Refraction	Arranged, 8 weeks, part time	100.00
	Perimetry	*Arranged, 4 weeks, part time*	*75.00*
	Neuro-Ophthalmology	Arranged, 4 weeks, part time	75.00
	Broncho-Esophagology and Laryngeal Surgery	Arranged, 12 days, part time	250.00
	Rehabilitation of the Hard of Hearing	Arranged, 4 days, full time	75.00
	The Conservative Management of Acute Sinusitis and Chronic Rhinitis	Arranged, 6 days, part time	75.00
University of Cincinnati College of Medicine, Eden and Bethesda Aves., Cincinnati 19	Graduate Convention in Otology, Rhinology and Laryngology	April 12-17, full time	140.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19	Seminar in Ophthalmology and Otolaryngology	Arranged, 5 days, full time	50.00
	Advanced Otology	Arranged, 2 weeks, part time	250.00
	Refraction	Arranged, 4 weeks, part time	100.00
	Motor Anomalies	Arranged, 4 weeks, part time	50.00
	Operative Ophthalmology (Dissection)	Arranged, 4 weeks, part time	100.00
	Operative Otology (Cadaver)	Arranged, 4 weeks, part time	100.00
	Surgical Anatomy of Nose and Accessory Sinuses	Arranged, 6 weeks, part time	150.00
	Clinical Ophthalmology	Arranged, 6 weeks, or 3 months, part time	75.00-125.00
	Clinical Otolaryngology	Arranged, 6 weeks, or 8 months, part time	100.00-150.00
	Clinical Ophthalmology and Otolaryngology	Arranged, 6 weeks, or 3 months, *full time*	150.00-250.00
	Operative Nose and Throat (Dissection)	Arranged, 6 weeks, part time	150.00
	Ophthalmology, Including Cadaver Ophthalmology and Refraction	Arranged, 3 months, part time	300.00
	Otolaryngology and Ophthalmology, Including Cadaver and Refraction	January and April, 8 months, full time	600.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	5910-A Laryngology and Surgery of the Larynx and Neck	January 4-15, full time	200.00
	579-A Neuro-Ophthalmology	January 18-22, part time	50.00
	5710-A Perimetry	January 18-22, part time	50.00
	591-B Endaural Surgery	February 8-19, full time	200.00
	571-A Motor Anomalies of the Eye (Part I) for Specialists	March 8-13, full time	90.00
	572-A Motor Anomalies of the Eye (Part II) for Specialists	March 15-19, full time	75.00
	573-A Ophthalmic Plastic Surgery (for Specialists)	March 29-April 2, part time	75.00
	574-B Surgery of the Eye (for Specialists)	March 22-27, full time	100.00
	5711-B Ophthalmoscopy	May 3-7, part time	50.00
	5713-B Ocular Therapeutics	May 3-7, part time	50.00
University of Cincinnati College of Medicine, Eden and Bethesda Aves., Cincinnati	Eighteenth Annual Graduate Convention in Otology, Rhinology, and Laryngology	April 12, 6 days, full time	150.00
University of Oregon Medical School, 3181 S. W. Sam Jackson Park Rd., Portland	Oregon Academy of Ophthalmology and Otolaryngology—*Postgraduate* Convention	March, one week, full time	75.00
Temple University School of Medicine, 3400 N. Broad St., Philadelphia 40	Laryngology and Laryngeal Surgery	January 11-22, full time	250.00
University of Texas Postgraduate School of Medicine, Texas Medical Center, 1400 Outer Belt Dr., Houston 25	Ocular Motor Anomalies	February 1-March 1, twice weekly, part time	25.00
Gill Memorial Hospital, 711 S. Jefferson St., Roanoke, Va.	27th Annual Spring Congress in Ophthalmology and Otolaryngology	April 5-10, full time	75.00

ORTHOPEDIC SURGERY

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
College of Medical Evangelists, 812 N. Boyle Ave., Los Angeles 33	Minor Orthopedic Surgery	April 1-May 20, once weekly, part time	80.00
	Diseases and Injuries of Bones and Joints	July 5-30, full time	100.00
Emory University School of Medicine, 69 Butler St., S. E., Atlanta, Ga.[5]			
At: Grady Memorial Hospital	Orthopedic Surgery	January 7, full time	5.00
Northwestern University Medical School, 303 E. Chicago Ave., Chicago 11	Basic Science in Orthopaedic Surgery [96]	January-June, 6 months, full time	600.00
Tulane University, Division of Graduate Medicine, 1430 Tulane Ave., New Orleans, La.	Surgery of the Hand	March 4-6, full time	25.00
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15			
At: Children's Hospital	Orthopedic Surgery 1	Arranged, 1 to 12 months, full time	800.00 12 months
At: Massachusetts General Hospital	Orthopedic Surgery 2	Arranged, 3 to 12 months, full time	800.00 12 months
At: Massachusetts General Hospital and Children's Hospital	Orthopedic Surgery 3	Arranged, 1 to 3 months, full time	200.00 3 months
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32			
At: Hospital for Joint Diseases	Orthopedic Surgery PM 80 Survey of the Essentials for Orthopedic Surgery	Arranged, 2 weeks, full time	100.00
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York	Fractures and Allied Trauma	Spring, 4 weeks, part time	200.00
	Orthopedics in General Practice	April and May, 5 weeks, full time	60.00
	Orthopedics of the Foot	Arranged, 24 hours, part time	100.00

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Postgraduate Continuation Courses for Physicians—Jan. 1, 1954, to July 15, 1954—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	ORTHOPEDIC SURGERY—Continued		
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19	Orthopedic Surgery for General Surgeons	Arranged, 2 months, part time	$100.00
	Operative Orthopedics (Dissection)	Arranged, 5 sessions, part time	100.00
	Advanced Orthopedics of the Foot	Arranged, 8 sessions, part time	100.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	583-A Anatomy for Orthopedic Surgeons	January 4-8, full time	90.00
	581-A Basic Sciences as Related to Orthopedic Surgery	January 4-June 18, full time	450.00
	582-A Orthopedics in General Practice	June 14-18, full time	75.00
University of Texas Postgraduate School of Medicine, Galveston[15] At: Southwestern Medical School of The University of Texas	Orthopedic Surgery	February 15-16, full time	20.00
University of Texas Postgraduate School of Medicine, Temple At: Scott and White Memorial Hospitals; Scott, Sherwood, and Brindley Foundation	Orthopedic Surgery	Arranged, 2 weeks, full time	25.00
University of Texas Postgraduate School of Medicine, Texas Medical Center, 1400 Outer Belt Dr., Houston 25 At: Auditorium—City County Hospital (Memorial), Corpus Christi	Office Traumatic Surgery and Orthopedics	January 27-March 17, once weekly part time	25.00
	PATHOLOGY		
College of Medical Evangelists, 312 N. Boyle Ave., Los Angeles 33	General and Surgical Pathology	October 6-June 10, twice weekly, part time	175.00
Los Angeles Graduate School of Medicine, 1858 W. Washington Blvd., Los Angeles	Pathology	Arranged, once weekly, 13 weeks, part time	150.00
Armed Forces Institute of Pathology, Washington 25, D. C.	Pathology of the Oral Regions[67,68,69,70]	March 8-12, full time	None
Office of the Surgeon General, United States Army, Washington, D. C. At: Brooke Army Medical Center, Fort Sam Houston, Texas	Clinical Laboratory Course[67,68,69,70]	March 15-19, full time	None
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Gross and Surgical Pathology	Arranged, 12 months, full time	900.00
	Gross and Microscopic Pathology	Arranged, 12 months, full time	500.00
	Clinical Course in Gross and Surgical Pathology	Arranged, 6 months, full time	500.00
University of Maryland School of Medicine, 29 S. Greene St., Baltimore 1	Neuropathology	Arranged, 6 months, full time	200.00[87]
Wayne University College of Medicine, 1512 St. Antoine St., Detroit	Neuropathology	March 15-June 12, part time	50.00
At: Receiving Hospital	Medical Pathological Conference	Every quarter, 12 weeks, part time	15.00
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32 At: Mt. Sinai Hospital	Pathology PM 31 Surgical Pathology	January 16-April 24, part time	100.00
	Pathology PM 32 Laboratory Methods in Blood Banks	February 2-March 9, part time	50.00
At: Columbia Presbyterian Medical Center	Pathology GM 1 Surgical Pathology	July 1, 6 or 12 months, first of each month, full time	230.00-460.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16[1] At: State University of New York College of Medicine	Gynecological and Obstetrical Pathology[88]	March, once weekly, 10 weeks, part time	100.00
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York	Pathology	Arranged, 16 weeks, part time	200.00
	Clinical Pathology	Arranged, 26 hours, part time	100.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19	Surgical Pathology	Arranged, 3 months, part time	300.00
	Urological Pathology	Arranged, 3 months, part time	150.00
	Gynecological Pathology	Arranged, 2 weeks, part time	100.00
	Blood Transfusions	Arranged, 2 weeks, part time	100.00
	Pathology	Arranged, 3 months, part time	300.00
	Pathology	Arranged, 12 months, part time	1,000.00
	Pathology for Surgeons	Arranged, 1 month, part time	100.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	444-A Special Pathology for Surgeons	January 7-June 17, full time	125.00
	441-A Gynecological Pathology	January 26-March 18, full time	100.00
University of Texas Postgraduate School of Medicine, Temple, Texas At: Scott and White Memorial Hospitals; Scott, Sherwood, and Brindley Foundation	Clinical Pathology	Arranged, 2 weeks, full time	25.00
	Surgical Pathology and Pathologic Anatomy	Arranged, 2 weeks, full time	25.00
University of Washington School of Medicine, Seattle 5[4]	Review for Specialty Boards	Arranged, part time	None
	PEDIATRICS		
University of Colorado Medical Center, Office of Graduate and Postgraduate Medical Education, 4200 E. Ninth Ave., Denver 20	Postgraduate Course in Pediatrics	March 24-26, full time	10.05
American Academy of Pediatrics, 610 Church St., Evanston, Ill. At: Biltmore Hotel, Los Angeles, Calif.	Spring Session	April 5-7, full time	5.00 members 25.00 non-members
University of Southern California School of Medicine, 1200 N. State St., Los Angeles 33	865 Recent Advances in Pediatrics	Arranged, 6-12 weeks, part time	[100]
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Personal Course in Pediatrics	March 24, 10 days, part time	100.00
	Department Course in Pediatrics	July 1, 1 year, full time	750.00
	Intensive Course in Cerebral Palsy	June 14, 2 weeks, full time	150.00
	Course in the Diagnosis and Treatment of Congenital and Rheumatic Heart Disease in Infants and Children	April 19, 1 week, full time	100.00
	Roentgenology and Electrocardiography in Heart Disease in Infants and Children	April 26, 3 days, full time	60.00
	Angiocardiography and Catheterization of the Heart and Great Vessels in the Diagnosis of Acquired and Congenital Malformations in the Hearts of Infants and Children	April 29, 3 days, full time	60.00
	Clinical Refresher Course in Pediatrics	Arranged, first of every week, 2 weeks, or 1 month, full time	60.00 2 weeks 100.00 1 month
	Intensive Course in Pediatrics	April 5, 2 weeks, full time	100.00

References will be found on page 1399.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1954, to July 15, 1954—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	PEDIATRICS—Continued		
University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City 12 [99]	Postgraduate Course in Pediatrics	March 15-17, full time	$30.00
Tulane University, Division of Graduate Medicine, 1430 Tulane Ave., New Orleans, La.	Surgery, Gynecology and Traumatology	January 11-16, full time	Not given
	Pediatric Surgery	*February 8-13, full time*	*50.00*
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15			
At: Children's Hospital	Pediatrics 2	January 4-April 23, full time	500.00
At: Massachusetts General Hospital	Pediatrics 3	June 14-22, full time	125.00
University of Michigan Medical School, Ann Arbor			
At: University Hospital	Pediatrics	March 31-April 2, full time	30.00
University of Minnesota Center for Continuation Study, Minneapolis 14	Pediatrics for General Physicians	January 7-9, full time	25.00
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York	Clinical Pediatrics	Arranged, 1 month, full time	150.00
	Clinical Pediatrics	Arranged, 3 months, full time	250.00
	Clinical Pediatrics	Arranged, 9 months, full time	650.00
	Clinical Pediatrics	Arranged, 12 months, full time	850.00
	Pediatric Allergy: Course II	May, 60 hours, full time	200.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19	Pediatrics	Arranged, 4 weeks, part time	100.00
New York State Department of Health, Albany 1			
At: University of Buffalo School of Medicine [40]	Intensive Refresher Course in Pediatrics for General Practitioners	Spring, 2 weeks, full time	100.00
At: New York Hospital—Cornell Medical Center [41]	Institute for Physicians and Nurses on Care of Premature Infant	January 4, March 1, May 17, 2 weeks, full time	125.00 physicians 175.00 nurses
New York University Post-Graduate Medical School, 477 First Ave., New York 16	613-A Pediatric Refresher Course (for Specialists)	January 18-20, full time	100.00
	614-B Review of Clinical Pediatrics	March 8-13, full time	50.00
	619-A Pediatric Cardiology	March 31-June 2, part time	60.00
	615-A Practical Pediatric Endocrinology	April 1-June 3, part time	50.00
	616-A Pediatric Allergy	April 6-June 8, part time	60.00
At: Willard Parker Hospital	617-A Communicable Diseases	January 11-15, full time	50.00
Southern Pediatric Seminar, Saluda, N. C.	Pediatric Course of Southern Pediatric Seminar	July 12-24, full time	40.00
University of Oklahoma School of Medicine, 800 N. E. 13th St., Oklahoma City	Pediatrics	January 28-30, full time	15.00
University of Texas Postgraduate School of Medicine, Temple			
At: Scott and White Memorial Hospitals; Scott, Sherwood. and Brindley Foundation	Pediatrics	Arranged, 4 weeks, full time	25.00
University of Texas Postgraduate School of Medicine, Texas Medical Center, 1400 *Outer Belt Dr., Houston*			
At: Auditorium-Lounge, Texas Medical Association Library, Austin	Pediatrics	January or February, 8 weeks, part time	25.00
University of Washington School of Medicine, Seattle 5 [4]	Emotional Problems of Children	July 26-30, full time	50.00
	PHARMACOLOGY		
State University of Iowa College of Medicine, Iowa City	Advanced Pharmacology	Arranged, once weekly, part time	None
	PHYSICAL MEDICINE AND REHABILITATION		
Letterman Army Hospital, San Francisco	Rehabilitation of Neuromuscular Disabilities [74,75,76]	April 5-10, full time	None
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32			
At: Columbia Presbyterian Medical Center	Physical Medicine and Rehabilitation GM 1	July 1, 6 or 12 months, full time	230.00 460.00
New York Polyclinic Medical School and Hospital, 345 W. *50th St., New York 19*	Physical Medicine and Rehabilitation	Arranged, 4 weeks, full time	100.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	738-A Physical Medicine and Rehabilitation	January 11-October 8, full time	700.00
	7310-B Physical Medicine and Rehabilitation	January 11-February 5, full time	100.00
	7312-B Seminar on the Rehabilitation of Children	January 18-22, full time	40.00
	7312-C Seminar on the Rehabilitation of Children	May 17-21, full time	40.00
	PHYSIOLOGICAL CHEMISTRY		
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Biochemical Background of Clinical Medicine	March 24, 10 days, part time	100.00
Wayne University College of Medicine, 1512 St. Antoine St., Detroit	Intermediary Metabolism	January 1-March 13, once weekly, part time	15.00
	Nutrition	January 1-March 15, part time	35.00
	Seminar	Every quarter, 12 weeks, part time	15.00
	PHYSIOLOGY		
College of Medical Evangelists, 312 N. Boyle Ave., Los Angeles 33	Surgical Physiology	January 1-June 10, once weekly, part time	75.00
Mercy Hospital, Hillcrest Dr., San Diego 3, Calif.	Applied Physiology	Once weekly, part time	None
University of California School of Medicine, Los Angeles	Pathological Physiology	February 15-May 3, part time	50.00
Yale University School of Medicine, 333 Cedar St., New Haven, Conn.[3]	Physiology 200, Brain Tumor Registry	Arranged, full time	Not stated
State University of Iowa College of Medicine, Iowa City	Advanced Physiology of the Digestive System	Arranged, 1 day, part time	None
	Microphysiology	Arranged, once weekly, full time	None
	Advanced Physiology of Muscle and Nerve	Arranged, weekly, full time	None
University of Pennsylvania Graduate School of Medicine, Philadelphia 4	Ionic (Acid-Base) Balance and Water Balance with Clinical Applications	May 26-28, full time	60.00
	Modern Viewpoints in Carbohydrate and Fat Metabolism with Clinical Applications	June 7-8, full time	40.00
University of Pittsburgh School of Medicine, 3941 O'Hara St., Pittsburgh 13, Pa.	Physiology	January-June, once weekly, full time	25.00
	POLIOMYELITIS		
Rancho Los Amigos Respiratory Center for Poliomyelitis, Hondo, Calif.			
At: Orthopaedic Hospital, Los Angeles	*Poliomyelitis*	*Spring, 5 days, full time*	*Not given*
Children's Medical Center, 300 Longwood Ave., Boston	Poliomyelitis Refresher Course for Physicians	June and August, 5 days, full time	50.00

References will be found on page 1399.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1954, to July 15, 1954—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	POLIOMYELITIS—Continued		
National Foundation for Infantile Paralysis, Inc., 120 Broadway, New York 5 At: Georgia Warm Springs Foundation	Care of *Poliomyelitis*	January and April, 5 days, full time	None
University of Pittsburgh School of Medicine, 3941 O'Hara St., Pittsburgh 13 At: D. T. Watson School of Physiatrics, Leetsdale, Pa.	Management of Acute Poliomyelitis with Emphasis on Prescription of the Respirator and Rocking Bed	*May, 5 days, full time*	$10.00
	PROCTOLOGY		
University of California School of Medicine, Los Angeles At: Campus and San Diego	Office Proctology	April 29, full time	*17.50*
Los Angeles Graduate School of Medicine, 1858 W. Washington Blvd., Los Angeles 7	Proctology	Arranged, once weekly, 7 weeks, part time	*50.00*
Cook County Graduate School of Medicine, 707 S. Wood St., *Chicago 12*	Lectures and Cadaver Course in Proctology	*January 27, March 10,* May 26, 5 days, part time	100.00
Tufts College Medical School, Postgraduate Division, 171 Mass.[13] ry, Boston and Mt. Auburn Hos-	Proctology II	May 3-28, full time	250.00
Center for Continuation Study,	Proctology for General Physicians	May 17-22, full time	*40.00*
t-Graduate Education, 1313 Bedford Ave., Brooklyn 16[1] At: Jewish Hospital	*Proctology*	April, twice weekly, 6 weeks, part time	40.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19	Proctology, Gastroenterology, Oper*ative Proctology (Dissection)*	January, April, 6 weeks, *part time*	200.00
	Clinical Proctology and Gastroenterology	January, April, 6 weeks, part time	100.00
	Clinical *Proctology*	Arranged, 6 weeks, part time	75.00
	Clinical and Cadaver Proctology	Arranged, 6 weeks, part time	175.00
University of Texas Postgraduate School of Medicine, Temple At: Scott and White Memorial Hospitals; Scott, Sherwood, and Brindley Foundation	Proctology	Arranged, 2 weeks, full time	25.00
	PSYCHOLOGY		
University of California School of Medicine, Los Angeles	Diagnostic Psychological Testing: *Contributions to Differential Diagnosis*	January 11-February 18, twice *weekly, part time*	60.00
	PUBLIC HEALTH		
New York State Department of Health, Albany 1 At. ester-Buffalo, Poughkeepsie	Extension Course in *Public Health*	*Continuously*, 6 days, part time	25.00
American 4200 Pine St., Philadelphia 4 At: and Bellefield Aves., Pittsburgh 13	Immunology	May 17, 10 weeks, part time	Not given
	PULMONARY DISEASE		
Trudeau Foundation, Saranac Lake, N. Y.[95] At: Saranac Lake (and neighboring sanatoria)	Trudeau School of Tuberculosis	May 31-June 25, full time	100.00
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York	Pulmonary Tuberculosis	Arranged, 3 weeks, full time	175.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	5417-A Acute and Chronic Pulmonary Diseases	*March 8-12, full time*	*45.00*
Saranac Lake Medical Society, 38 Church St., Saranac Lake, N. Y.[12]	Symposium on Tuberculosis and Chronic Chest Diseases for General Practitioners	*July 12-16, full time*	[89]
	RADIOLOGY		
College of Medical Evangelists, 312 N. Boyle Ave., Los Angeles 33	Roentgenology	January 1-June 8, once weekly, part time	100.00
University of Southern California School of Medicine, 1200 N. State St., Los Angeles 33 At: Los Angeles County Hospital	858. Diagnosis and Therapeutic Radiology	Arranged, 12 months, full time [103]	1,000.00
Yale University School of Medicine, 333 Cedar St., New Haven, Conn.[3]	Radiology 303, X-Ray Physics	January 7, *March 11, once weekly, part time*	20.00
	Radiology 304, Radioactivity	*March* 8-20, once weekly, part time	*60.00*
American College of Radiology, 20 N. Wacker Dr., Chicago 6	Conference of Teachers of Clinical Radiology [90]	February 6, full time	Not stated
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	*X-Ray* Interpretation	March 24, 10 days, part time	100.00
	Course in Diagnostic *Radiology and* X-Ray Therapy	Arranged, 12 months, full time	*750.00*
	Course i	Arranged, 8 months, full time	*500.00*
	Routine Roentg	Arranged, every 2 weeks, 2 weeks, full time	*70.00*
	Clinical	January 4, March 1, May 3, 2 weeks, full time	125.00
		March 24, 10 days, part time	100.00
	-Ray Therapy	Arranged, first of every week, 1 or 2 weeks, 1 month, full time	*60.00* 1 week *110.00* 2 weeks *200.00* 1 month
Northwestern University Medical School, 303 E. *Chicago* Ave., Chicago 11	Radiation Physics and Radiobiology Including Radioisotopes [96]	Spring quarter, weekly, part time	[97]
University of Kansas Medical Center, 39th and Rainbow Blvd., *Kansas City 12*	Roentgenological *Physics* [104]	January 24-March 21, part time	*25.00*
	Postgraduate Course in Radiology [99]	*February 15-17, full time*	30.00
Harvard Medical School, Courses for *Graduates*, 25 *Shattuck* St., Boston 15 At: Peter Bent Brigham Hospital	General Radiology 1	Arranged, 1 month or more, full time	*150.00* a month
At: Massachusetts General Hospital	General Radiology 2	Arranged, 1 month or more, full time	150.00 a month
At: Boston City Hospital	General Radiology 3	Arranged, 1 month or more, full time	*150.00* a month
At: Children's Hospital	*Pediatric* Radiology	Arranged, 1 month or more, full time	*150.00* a month
University of Michigan Medical School, Ann Arbor At: University Hospital	Diagnostic Roentgenology	April 5-9, full time	50.00
Wayne University College of Medicine, 1512 St. Antoine St., *Detroit* At: Receiving Hospital	*Medical X-Ray* Conference	Every quarter, 12 weeks, part time	15.00

References will be found on page 1399.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1954, to July 15, 1954—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	RADIOLOGY—Continued		
University of Minnesota Center for Continuation Study, Minneapolis 14	Radiology for General Physicians	May 3-5, full time	$25.00
Seton Hall University School of Education, 31 Clinton St., Newark 2, N. J.[101] At: Newark City Hospital	Cardiac Roentgenology and Fluoroscopy	January 21, once weekly, part time	100.00
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32 At: Mt. Sinai Hospital	Radiology PM 32 Roentgen Diagnosis of Lesions of the Gastrointestinal Tract	March 15-26, part time	25.00
	Radiology PM 31 Radiology of the Chest	March 29-April 6, full time	25.00
	Radiology PM 34 Differential Diagnosis in Radiology of the Chest	April 12-June 14, part time	50.00
	Radiology PM 33 Radium Therapy	April 18-May 25, part time	25.00
	Radiology PM 35 Use of Radioactive Iodine	Arranged, 3 months, part time	250.00
At: Columbia-Presbyterian Medical Center	*Radiology PM 1 Radiological Physics*	*January 12-April 2, part time*	*25.00*
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16[1] At: Beth El Hospital	Roentgen Diagnosis in Gastroenterology	April, once weekly, 8 weeks, part time	20.00
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th St., New York	Diagnostic	Arranged	150.00
	Radium ai	Arranged	150.00
New York Polyclinic Medical School and Hospital, 315 W. 50th St., New York 19	Roentgen	January, April, 3 months, full time	300.00
	Advanced Diagnostic Roentgen and Radiotherapy	January, April, 3 months, full time	300.00
	Diagnostic Roentgen and Radiation Therapy	January, April, 12 months, full time	1,000.00
	Practical Course in Superficial and Deep X-Ray Therapy	Arranged, 4 weeks, part time	100.00
	Advanced Course in Radiotherapy	Arranged, 4 weeks, part time	100.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	654-A Radiobiology	January 28-June 10, part time	75.00
	5128-B Cardiac Roentgenology	*February 4-5, full time*	*30.00*
	652-A Roentgen Aspects of Diseases of Pancreas, Gall Bladder, Liver and Spleen	May 5-7, full time	40.00
Environmental Health Center, Public Health Service, Cincinnati, Ohio	Basic Radiation Physics and Surgical Techniques	January 11-22, full time	None
	Laboratory Assay of Radioelements and X-Ray Survey Techniques	January 25-February 5, full time	None
	Occupational Health Problems	February 8-19, full time	None
	Basic Radiation Physics and Surgical Techniques	May 3-14, full time	None
	Laboratory Assay of Radioelements and X-Ray Survey Techniques	May 17-28, full time	None
University of Oklahoma School of Medicine, 800 N. E. 13th St., Oklahoma City	Radiology	May 7-8, full time	10.00
Reed College, Portland, Ore.[98]	Radiobiology	Summer, 6 weeks, and fall semester	Not given
Institute of Nuclear Studies, Oak Ridge, Tenn.	*Basic Course in Techniques of Using Radioisotopes*	*February 8-March 5 and March 15-April 9, full time*	*25.00*
University of Texas Postgraduate School of Medicine, Temple At: Scott and White Memorial Hospitals; Scott, Sherwood, and Brindley Foundation	Radiology	Arranged, 1 week, full time	25.00
	SURGERY		
College of Medical Evangelists, 312 N. Boyle Ave., Los Angeles 33	Basic Science in Surgery and Surgical Specialties	October 4-June 11, full time	800.00
	Surgical Diseases of the Peripheral Vascular System	January 5-February 16, once weekly, part time	30.00
	Operative Surgery	March 24-June 9, once weekly, part time	200.00
	Surgical Diseases of Children	April 6-27, once weekly, part time	20.00
	Thoracic Surgery	April 14-June 2, once weekly, part time	30.00
George Washington University School of Medicine, 1335 H St., N. W., Washington 5 At: George Washington University Hospital	Surgical Diagnosis	March 29-April 2, full time	75.00
Los Angeles Graduate School of Medicine, 1858 W. Washington Blvd., Los Angeles 7	General Surgery	Once weekly, 11 weeks, full time	[91]
University of California School of Medicine, Los Angeles	*General Surgery*	*February 3-April 21, part time*	*50.00*
University of California School of Medicine, Medical Extension, Medical Center, San Francisco 22 At: University of California Hospital	Conference on General Surgery	September 13-17, full time	Not given
Emory University School of Medicine, 69 Butler St., S. E., Atlanta, Ga.[5] At: Grady Memorial Hospital	Surgery	May 6, full time	5.00
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Panel Course in Surgery: Gallbladder and Liver	January 13, 5 days, part time	125.00
	Panel Course in Surgery: Small Intestine, Pancreas	February 17, 5 days, part time	125.00
	Surgical Anatomy on the Cadaver, Clinical Surgery, Preoperative and Postoperative Management	March 22, June 21, 2 weeks, full time	150.00
	Panel Course in Surgery: Large Intestine	March 24, 5 days, part time	125.00
	Panel Course in Surgery: Vascular Diseases	April 28, 5 days, part time	125.00
	Course in the Treatment of Varicose Veins	Arranged, every month, 10 hours, part time	50.00
	Personal Course in Clinical Surgery	March 24, 10 days, part time	150.00
	Treatment of Varicose Veins	Arranged, twice a month, 2 days, full time	50.00
	Thoracic Surgery	June 7, 1 week, full time	125.00
	Esophageal Surgery	June 21, 1 week, full time	150.00
	Personal Course in General Surgery	February 8, July 12, 1 week, full time	150.00
	Intensive Review Course Considering Basic Principles in General Surgery	March 29, 2 weeks, full time	200.00
	Gallbladder Surgery	April 19, June 28, 10 hours, 3 days, full time	100.00
	Breast and Thyroid Surgery	June 21, 1 week, full time	150.00
	Surgery of Colon and Rectum	March 1, April 12, May 10, June 7, 1 week, full time	125.00

References will be found on page 1399.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1954, to July 15, 1954—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	SURGERY—Continued		
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Course in General Surgery	April 19, 2 weeks, full time	$250.00
	Surgery of Extremities	March 24, 10 days, part time	125.00
	Surgical Technic with Practice	February 10, 10 days, part time	250.00
	Surgical Anatomy on the Cadaver	March 24, 10 days, part time	125.00
	Practical and Didactic Course in Proctoscopy and Sigmoidoscopy	January 5, February 16, March 16, April 13, May 11, June 15, 3 days, part time	50.00
	Thoracic Surgery	March 25, 10 days, part time	100.00
	Personal Course in Surgical Diagnosis, Pre- and Post-Operative Management	March 24, 10 days, part time	100.00
	Intensive Course in Surgical Technic	January 25, February 8, February 22, March 8, April 5, April 19, May 3, May 17, June 7, 2 weeks, full time	250.00
	Surgical Technic, Clinical Surgery, Surgical Anatomy, Preoperative and Postoperative Management	March 8, June 7, full time	325.00
Northwestern University Medical School, 303 E. Chicago Ave., Chicago	Endaural Otologic Surgery	April 5-30, full time	500.00
University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City 12[99]	Postgraduate Course in Surgery	January 18-21, full time	50.00
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15 At: Massachusetts General Hospital	General Surgery 1	June 1-26, full time	250.00
	General Surgery 2	Arranged, 4 to 12 months, full time	800.00 12 months
Wayne University College of Medicine, 1512 St. Antoine St., Detroit	Surgery Seminar	Every quarter, once weekly, part time	15.00
University of Minnesota Center for Continuation Study, Minneapolis 14	Surgery for General Surgeons	May 6-8, full time	25.00
	Emergency Surgery for General Physicians	April 1-3, full time	25.00
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32 At: Columbia Presbyterian Medical Center	Surgery GM 2 Principles of Cardiovascular Surgery	January 1-July 1, 6 or 12 months, full time	460.00 for 6 months
	Surgery GM 2-A Studies in Cardiovascular Surgery	January 1-July 1, 6 or 12 months, full time	460.00 for 6 months
New York Medical College, Flower and Fifth Ave. Hospitals, 1 E. 105th Street, New York	Surgical Aspects of Peripheral Vascular Diseases	Arranged	200.00
	Gastrointestinal Surgery	Arranged	200.00
	Peritoneoscopy	Arranged	100.00
	Surgical Technique	Arranged, 50 hours, part time	375.00
	Thoracic Surgery	Spring, 3 weeks, full time	365.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19	Clinical and Operative (Cadaver) Surgery	January, April, 4 weeks, full time	200.00
	Clinical Surgery	January, April, 4 weeks, full time	100.00
	Combined Surgical Course Including Cadaver Surgery and Gynecology	January, April, 2 months, full time	350.00
	Traumatic Surgery Including General Surgery, Orthopedic Surgery and Physical Medicine	Arranged, 2 months, part time	200.00
	Thoracic Surgery	Arranged	200.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	6612-B Cardiac Resuscitation	January 15, full time	50.00
	662-A Basic Problems in Cancer Therapy (for Specialists)	January 25-February 6, full time	200.00
	660-A Anatomy and Physiology of the Autonomic Nervous System and Their Clinical Application	January 18-23, full time	150.00
	6612-C Cardiac Resuscitation	March 19, full time	50.00
	661-B Review of General Surgery (for Specialists)	March 29-April 24, full time	300.00
At: Beekman Downtown Hospital	668-A Diagnosis and Treatment of Fractures and Dislocations	February 1-13, full time	125.00
	667-A Surgery of the Hand	March 22-27, full time	90.00
	669-A Surgery of Trauma	April 1-June 3, full time	100.00
University of Oklahoma School of Medicine, 800 N. E. 13th St., Oklahoma City	Surgery	January 6-8, full time	15.00
	General Surgery	March 2-10, 10 weeks, part time	25.00
	Trauma	April 2-3, full time	10.00
John Gaston Hospital, 860 Union Ave., Memphis, Tenn.	Abdominal Surgery—Principle of Diagnosis and Management	May 12-14, full time	50.00
University of Texas Postgraduate School of Medicine, Galveston[15] At: Southwestern Medical School of The University of Texas	Surgery	April 19-21, full time	30.00
University of Texas Postgraduate School of Medicine, Temple[44]	Medical and Surgical Conference	March 1-3, full time	Not given
University of Wisconsin School of Medicine, 418 N. Randall Ave., Madison At: University Hospitals	Continuation Course	Arranged, 1 month, full time	100.00
	THERAPY		
University of North Carolina School of Medicine, Extension Division, P. O. Box 1020, Chapel Hill, N. C. At: N. C. Memorial Hospital, Chapel Hill, N. C.	Implications of Newer Diagnostic and Therapeutic Techniques	April 7-9, full time	25.00
University of Pennsylvania Graduate School of Medicine, Philadelphia 4 At: Graduate Hospital	Neurologic Emergencies Amenable to Satisfactory Therapy	June 8-10, full time	60.00
	TROPICAL MEDICINE		
Columbia University College of Physicians and Surgeons, 630 W. 168th St., New York 32 At: School of Public Health	Tropical Medicine 202, Parasitic Diseases	March 29-May 22, part time	50.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	735-A Tropical Medicine	January 4-February 19, full time	300.00
	UROLOGY		
College of Medical Evangelists, 312 N. Boyle Ave., Los Angeles 33	General Urology	January 6-March 10, once weekly, part time	35.00
University of California School of Medicine, Los Angeles At: Campus and San Diego	Office Urology	April 30, full time	17.50

References will be found on page 1399.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1954, to July 15, 1954—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	UROLOGY—Continued		
Cook County Graduate School of Medicine, 707 S. Wood St., Chicago 12	Intensive Course in Urology	April 19, 2 weeks, full time	$225.00
	Practical Course in Cystoscopy	January 11, January 25, February 8, February 22, March 8, March 22, April 5, May 3, May 17, June 7, June 21, July 12, 10 days, full time	150.00
University of Minnesota Center for Continuation Study, Minneapolis 14	Urology for General Physicians	April 8-10, full time	25.00
New York Polyclinic Medical School and Hospital, 345 W. 50th Street, New York 19	Instrumental Urology	Arranged, 4 weeks, part time	100.00
	Operative Surgery (Urological) for Specialists	Arranged, 2 months, part time	150.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16	674-A Refresher Course in Basic Urology	January 18-22, full time	60.00
	671-A Advanced Course in Urology (for Specialists)	May 3-29, full time	175.00
Oswald Swinney Lowsley Medical Group, 111 E. 71st St., New York 21 [45]	Postgraduate Course [92]	Arranged, 1 year, full time	740.00
University of Texas Postgraduate School of Medicine, Temple At: Scott and White Memorial Hospitals and Scott, Sherwood, and Brindley Foundation	Clinical Urology	Arranged, 2 weeks, full time	25.00

Sponsoring and Contributing Agencies

1. Medical Society of the County of Kings and State University of New York College of Medicine.

2. Ciba Pharmaceutical Products, Inc.

3. Hartford Hospital, Grace-New Haven Community Hospital and Connecticut State Medical Society.

4. Washington State Medical Association and Washington State Department of Health.

5. Medical Association of Georgia and Georgia Chapter of the American Academy of General Practice.

6. Minnesota Heart Association.

7. Columbia University College of Physicians and Surgeons.

8. In cooperation with appropriate county medical society. Some equipment supplied by Pennsylvania Heart Association.

9. Rochester Regional Hospital Council, Rochester, New York.

10. Tulane University and Louisiana State University.

11. Council on Postgraduate Medical Education and Laennec Society of Philadelphia.

12. Bingham Fund Associates and New England Center Hospital, Boston.

13. American College of Physicians.

14. University of California, Stanford University and University of California Medical School.

15. Dallas Southern Clinical Society, the Texas Medical Association, and the Texas Academy of General Practice.

16. New York State Department of Health, Albany.

17. Medical Society of the State of New York, New York Academy of General Practice, New York City Cancer Committee, New York State Department of Health Bureau of Cancer Control and the New York State Department of Health.

18. New York City Department of Health, Medical Society of State of New York, New York Academy of General Practice, New York City Cancer Committee.

19. Pennsylvania Department of Health and American Cancer Society.

20. Department of Health, Puerto Rico Medical Association, Liga Puertorrequena Contra el Cancer, Asociacion para la Lucha Contra el Cancer.

21. South Carolina Division of American Cancer Society and State Board of Health.

22. Tennessee Department of Health and Tennessee Division of American Cancer Society.

23. Vermont State Cancer Society.

24. Medical College of Alabama, Birmingham.

25. Arizona State Department of Health.

26. San Diego County Medical Society.

27. The Medical Alumni Association.

28. Weld County Medical Society, Greeley.

29. In collaboration with other agencies.

30. Michigan State Medical Society, Lansing; Wayne University College of Medicine, Detroit; Michigan Department of Health, Lansing.

31. Medical College of South Carolina.

32. University of Tennessee, Vanderbilt University and Tennessee Department of Public Health.

33. King County Academy of General Practice.

34. Washington Academy of General Practice.

35. State Department of Mental Health, Joint Committee of State Mental Hospitals, Institute of Living, Hartford. Part of Seventh Postgraduate Seminar offered by the Connecticut Postgraduate Seminar in Psychiatry and Neurology, Inc.

36. South Carolina Mental Health Commission and National Institute of Health.

37. State Obstetric and Gynecologic Society.

38. Stanford University School of Medicine.

39. Massachusetts Eye and Ear Infirmary

40. Medical Society of the State of New York.

41. U. S. Children's Bureau.

42. American Trudeau Society and Adirondack Counties Chapter of the New York State Academy of General Practice.

43. Adirondack Counties Chapter of the New York State Academy of General Practice.

44. Scott and White Memorial Hospitals, and Scott, Sherwood and Brindley Foundation, Temple division of the University of Texas, Postgraduate School of Medicine, University of Texas, Postgraduate School of Medicine, Houston, Texas.

45. St. Clare's Hospital.

Footnotes

46. Graduate. Lectures, seminars, and practical experience in administration.

47. Preparation for examination of specialty board in surgery.

48. Preparation for examination of specialty boards *in surgery and surgical specialties.*

49. Arranged according to registration, content and duration.

50. $25.00 Laboratory. $35.00 in part of $100.00 complete course.

51. Interns, Residents, none; Cleveland area M.D.'s, $30.00; other M.D.'s, $60.00.

52. $50.00, residents and $75.00, non-residents.

53. Designed for Nondermatologists.

54. Clinical and basic science course.

55. $75.00 first month, $50.00 each additional month.

56. Graduate. Lectures, seminars and 1 year of practical experience in a hospital.

57. For members of the American Academy of Compensation *Medicine, no fee.*

58. In association with American Academy of Compensation Medicine. Nos. 483 and 484 in consecutive weeks supplement each other and give comprehensive course in industrial medicine.

59. $50.00 for 5 days, $90.00 for 10 days.

60. Registration accepted for 10 days or for the first or second 5-day period.

61. Preparation for board certification.

62. $60.00 total—$10.00 by physician, $50.00 by New York State Department of Health. Limited number of fellowships available.

63. $100.00 total—$10.00 by physician, $90.00 by New York State Department of Health. Limited number of fellowships available.

64. Scientific program for general practitioners.

65. For non-members of the AAGP.

66. Postgraduate scientific meeting.

67. Attendance is encouraged from the following individuals:
   a. Medical Corps Officers of the Armed Forces on active duty.
   b. Medical Corps Officers of the Armed Forces not on active duty.
   c. Physicians from other Federal Agencies.
   d. Other civilian physicians desiring to attend.

68. **Application procedure.** Applications must reach the addressees listed below not later than six weeks before the start of the course.
   a. Forward Applications: From Army Medical Corps officers and full-time Civil Service physicians at Army installations to Office of the Surgeon General, Department of the Army, Washington 25, D. C., ATTENTION: Personnel Division, Career Management Branch.
   b. From Army Reserve Medical Corps officers not on active duty through channels to the Army Area Commander.
   c. From National Guard Medical officers through channels to the National Guard Bureau, Washington 25, D. C.
   d. Of medical officers from other branches of the Armed Forces through regular channels.
   e. Of all others to Commander of the installation conducting the course.

69. Designed for individuals who are board qualified and/or board certified, Chiefs, Assistant Chiefs or Assistant Chiefs of Services, and officers advanced in this specialty.

70. Designed for individuals partially qualified in the specialty or officers responsible for medical treatment in this specialty.

71. From the educational and research viewpoint this symposium for use in national defense should be conducted. Properly handled, it will lead to better understanding of physical and mental health standards and will summarize all information in this field and show areas requiring further study.

72. Open to physicians formally approved and accepted for training in psychoanalysis by Admissions Committee of the Los Angeles Institute for Psychoanalysis.

73. *Plus $5.00 registration fee. Part of M.A.* and Doctoral Training in psychology and psychiatry department. 2 credits.

74. Accredited by the American Psychoanalytic Association for training in the practice of psychoanalysis

75. Open only to psychiatrists who meet the admission requirements of each institute.

76. Open to qualified physicians interested in the application of psychoanalytic theory to the general practice of medicine.

77. 3-yr. course for qualified psychiatrists.

78. Open to qualified physicians by arrangement with the Dean.

79. Open to qualified physicians not specializing in psychiatry.

80. Open to general practitioners of medicine and given in Pittsburgh, Pennsylvania.

81. Advanced candidates in training only.

82. For uncertified specialists and general practitioners; 11 hours' credit in General Practice Academy.

83. Part of resident staff training.

84. Review for general practitioners.

85. Basic science course in preparation for residency in ophthalmology.

86. Basic sciences in ophthalmology.

87. Plus $10.00 laboratory fee.

88. Review for board examination.

89. $40.00 AAGP members; $50.00 non-members.

90. Deals with pedagogical problems.

91. $125.00, personal dissection. $95.00, observation dissection.

92. Practice in diagnosis. Treatment and postoperative care.

93. Florida Clinical Diabetes Association.

94. Florida Medical Association and University of Florida Graduate School.

95. Lillia Babbitt Hyde Foundation.

96. Basic Science course for specialty board certification.

97. Residents $10.00; Physicians and Specialists $25.00.

98. Armed Forces Special Weapons Project, Washington, D. C.

99. Kansas Medical Society.

100. 6 weeks, $25.00; 9 weeks, $37.00; 12 weeks, $50.00.

101. Essex County Medical Society.

102. Baylor University College of Medicine and Houston Heart Association.

103. May also be taken for 3 months at $250.00; 6 months, $500.00; 9 months, $750.00.

104. Radiological Society of Greater Kansas City.

105. $10.00 for non-members; $15.00 members; season $25.00.

106. Enrollment for study leading to degree in industrial health subjects.

MEDICAL LITERATURE ABSTRACTS

UNITED STATES

A.M.A. Arch. Ophthalmology, Chicago

50:275-400 (Sept.) 1953

Diabetic Retinopathy Treated with Testosterone. R. H. Bedrossian, D. S. Pocock, W. F. Harvey Jr. and A S. Sindoni.—p. 277.
Corneal Fluid Metabolism: Experiments and Observations. R. H. Bock and A. E. Maumenee.—p. 282.
Intravenous Use of Corticotropin in Angioneurotic Edema of Orbit. A. Callahan.—p. 286.
Dibenamine: An Experimental and Clinical Study. S. L. DeLong and H. G Scheie.—p. 289.
Use of Hydrocortisone (Hydrocortone) Acetate in Ophthalmology. J. Laval.—p 299.
Aspiration Biopsy in Intraocular Tumors. J. C. Long, W. C. Black and R W. Danielson.—p. 303.
Effect of Physostigmine and Pilocarpine on Iris Sphincter of Normal Man: Is it Competitive or Additive? Pupillographic Studies. O. Lowenstein and I. E. Loewenfeld.—p. 311.
Gonioscopy in Foreign Bodies of Chamber Angle. H. L. Moskowitz. —p. 319.
Epinephrine and Arterenol Determinations in Aqueous Humor and Iris and Ciliary Body of Cattle. B. Pillat and M. M. Powers.—p. 323.
An Early Symptom of Streptomycin Neurotoxicity. L. S. Sannella. —p. 331.
Coloboma of Lower Lid and Choroid, with Facial Defects and Deformity of Hand and Forearm. P. Tower.—p. 333.

American Heart Journal, St. Louis

46:321-478 (Sept.) 1953

Statistical Comparison of Normal Ballistocardiograms Recorded with High-Frequency Table and with Various Instruments Which Record Body Motion Directly. R. A. Helm and A. Iglauer.—p. 321.
Time Relationships of Ballistocardiographic Movements. J. R. Pierce, L. Christianson and R. P. Walker.—p. 329.
Interpretation of Velocity Measurement Ballistocardiogram. W. Buckingham, G. C. Sutton, R. Rondinelli and D. C. Sutton.—p. 341.
Left Auricular Pressure Curve Before and During First Degree Atrioventricular Block. V. O. Björk, C. Crafoord and G. Malmström. —p. 348.
*Clinical and Hemodynamic Features of Uncomplicated Interatrial Defect in Adults. C. B. Chapman and R. Fraser.—p. 352.
Comparative Analysis of Eccentric Double-Layer Representation of Human Heart. E. Frank.—p. 364.
Studies on Mechanism of Ventricular Activity: V. Intramural Depolarization-Potentials in Normal Heart with Consideration of Currents of Injury in Coronary Artery Disease. R. Kennamer, J. L. Bernstein, M. H. Maxwell and others.—p. 379.
Ventricular Premature Systoles with Postponed Compensatory Pause. R. Langendorf.—p. 401.
Architectonics of Heart. R. P. Grant.—p. 405.
*Nonspecific Myocarditis in Acute Rheumatic Fever. O. Saphir and R. Langendorf.—p. 432.
Sinoauricular Nodal Depression and Atrioventricular Nodal Rhythm Due to Quinidine: Report of Proved Case. A. J. Linenthal, B. M. Winer and M. I. Klayman.—p. 443.

Features of Interatrial Defect.—Ten men and nine women between the ages of 17 and 51 years with interatrial defects as diagnosed by cardiac catheterization were studied. The existence of a functioning communication between the atriums was thought probable if the oxygen content of the right atrial blood exceeded that of blood from the innominate vein or superior vena cava by 2 vol. %. The average difference between the two points in the authors' patients was 4.4 ± 1.7 vol. %. The catheter was passed through the interatrial defect in five patients. Functioning interatrial communications may exist for many years without producing symptoms. In 8 of the 19 patients the defect was detected only at the age of 18 or later. Prominent systolic murmurs, usually basal, were frequently observed. Basal systolic thrills that accompanied the murmurs in nine patients may cause diagnostic confusion. Calculations of the pulmonary arterial flow showed that it is often markedly increased but may be only slightly so. Slight to moderate pulmonary arterial hypertension was present in nine of the patients and was moderately severe in two. There is apparently no relation between flow and pressure in the pulmonary arterial system in patients with interatrial defects, but pulmonary vascular resistance is probably low in most of these patients. All but two of the patients showed definite increase in right ventricular pressure work, and in three of them it was more than six times normal. The available data suggested that the kinetic work also was increased significantly, although its absolute value is difficult to determine. The frontal plane QRS vector was usually +90 degrees or more, and right bundle branch block was not uncommon. Some relation between pulmonary flow and frontal plane QRS vector probably exists but could not be established definitely in this study.

Myocarditis in Rheumatic Fever.—Electrocardiographic changes and microscopic observations of the myocardium of 22 patients with rheumatic fever who had died of myocardial failure are reported. Only cases with typical recent Aschoff bodies in the myocardium in the absence of severe valvular deformities were chosen. Most of the patients had been sick three months or less. Shortness of breath, cyanosis, cough, expectoration of bloody sputum, tachycardia, and gallop rhythm were common. Electrocardiographic evidence of myocardial involvement was noted in all cases in which electrocardiographic records were available. In addition to Aschoff bodies, interstitial nonspecific myocarditis was present in every case. In 18 of 22 hearts, the parenchymatous changes noted were characterized by circumscribed foci of necrotic muscle fibers surrounded by small accumulations of endothelial leukocytes, lymphocytes with a few multinucleated cells, and Anitschkow's myocytes. These granulomas resembled Aschoff bodies but varied in some essentials from true Aschoff bodies. It is suggested that the electrocardiographic changes in acute rheumatic fever are due to nonspecific myocarditis.

American Journal of Hygiene, Baltimore

58:133-268 (Sept.) 1953

Escherichia Coli O 55 B 5 Infection in Gastroenteritis Ward: Epidemiological Applications of H Antigen Type Determinations. J. Wright and A. T. Roden.—p. 133.
Enhancement of Immunogenicity of Typhoid Vaccine by Retention of Vi Antigen. M. Landy.—p. 148.
An Experience with Vaccination Against Influenza B in 1952 by Use of Monovalent Vaccine. A. V. Hennessy, E. Minuse, F. M. Davenport and T. Francis Jr.—p. 165.
Study of Illness in Group of Cleveland Families: IV. Spread of Respiratory Infections Within Home. G. F. Badger, J. H. Dingle, A. E. Feller and others.—p. 174.
Id.: V. Introductions and Secondary Attack Rates as Indices of Exposure to Common Respiratory Diseases in Community. G. F. Badger, J. H. Dingle, A. E. Feller and others.—p. 179.
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Studies of Human Body Lice, Pediculus Humanus Corporis: II. Quantitative Comparisons of Susceptibility of Human Body Lice and Cotton Rats to Experimental Infection with Epidemic Typhus Rickettsiae. H. S. Fuller.—p. 188.
Development of Neutralizing Antibodies Against Three Types of Poliomyelitis Virus During an Epidemic Period: Ratio of Inapparent Infection to Clinical Poliomyelitis. J. L. Melnick and N. Ledinko.—p. 207.
Poliomyelitis Viruses in Tissue Culture. V. Reaction of Virus and Antibody; Variables of Quantitative Neutralization Test. N. Ledinko and J. L. Melnick.—p. 223.
Epidemiology of Rocky Mountain Spotted Fever: I. Characterization of Strain Virulence of Rickettsia Rickettsii. W. H. Price.—p. 248.

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Titles marked with an asterisk (*) are abstracted.

American Journal of Physiology, Washington

174:191-330 (Aug.) 1953. Partial Index

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Modifying Actions of Procaine on Myoneural Blocking Actions of Succinylcholine, Decamethonium and *d*-Tubocurarine in Dogs and Cats. C. H. Ellis, A L. Wnuck, E. J. De Beer and F. F. Foldes.—p. 277.

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Vasomotor Activity in Isolated Perfused Rat Liver. R. W. Brauer, G. F. Leong and R. L. Pessotti.—p. 304.

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Id.: II. What Shall be Taught—Designed Occupational Therapy for Psychiatric Team. D. L. Taggart.—p. 171.

Id.: III. How Shall It be Taught? K. M. Bowman.—p. 175.

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"Base Line" of Schizophrenia: I. Visual Phenomena. J. R. Smythies. —p. 200.

Journal of Aviation Medicine, St. Paul

24:257-372 (Aug.) 1953

*Altitude Stress in Subjects with Impaired Cardiorespiratory Function: Comparison of Responses of Normal Subjects, Patients with Angina Pectoris, and Patients with Anemia to Hypoxia. J. P. Marbarger, P. H. Wechsberg, C. V. Pestel and others.—p. 263.

Neurocirculatory Collapse in Aircraft Flight: Report of Case. M. R. Halbouty and D. R. Long.—p. 301.

Effect of High Breathing Pressure on Cardiac Output With and Without Counter Pressure. C. C. Cain and D. I. Mahoney.—p. 308.

Escape from Aircraft by Downward Ejection. W. S. Rothwell and E. G. Sperry.—p. 322.

Operational Hazard of Microwave Radiation. S. I. Brody.—p. 328.

Dynamic Centrifuge Trials of Anti-G Valves. R. A. Stubbs.—p. 334.

Reduction of Aircraft Engine Noise Hazards. E. S. Mendelson.—p. 340.

Cardiorespiratory Function During Altitude Stress.—Marbarger and coworkers report observations on 10 healthy young men, 8 patients with history and symptoms of angina pectoris but without further evidence of acute cardiac disease, and 14 patients with chronic anemia. All subjects were taken to simulated altitudes of 10,000 ft. (10 minutes stay) and 18,000 ft. (10 minutes stay for angina patients and 20 minutes for normal and anemia subjects) in a low pressure, air-conditioned chamber while resting on a horizontal, low frequency, critically damped ballistocardiograph. Measurements were made of arterial blood oxygen and carbon dioxide content and cellular components of blood. Direct tonometry of arterial and venous pressures was performed. Electrocardiographic, ballistocardiographic, and pressure readings and respiratory changes were obtained. 1. Cardiac output increased in all subjects with inhalation of ambient air at reduced barometric pressures existing at 10,000 ft. and 18,000 ft. simulated altitude and promptly returned to ground level values with inhalation of 100% oxygen. 2. Increased cardiac output occurred as a result of an increase in pulse rate and stroke volume in all groups of subjects. 3. Peripheral resistance to blood flow decreased markedly in all groups of subjects on exposure to ambient atmosphere at simulated altitudes up to 18,000 ft. 4. "Useful work of the left ventricle" markedly increased in all subjects during exposure to hypoxia. 5. Mean venous pressure remained unchanged in the normal subjects but increased with duration of stress in both angina and anemia patients. 6. Electrocardiographic changes occurred with hypoxic stress in normal subjects. There was depression or inversion of T-wave and depression of S-T segment. Similar changes were observed in the anemia patients and in those with angina pectoris, although many of the electrocardiograms of the latter group were abnormal before the test was started. 7. The normal group of subjects and the patients with anemia withstood the test throughout the prescribed course, but the angina pectoris group withstood only 10 minutes at 18,000 ft. before anginal pains occurred in some of the patients; the test was discontinued at this time. 8. The over-all responses of the normal and abnormal subjects were so similar that this method cannot serve as a test in persons with questionable evidence of cardiovascular disease. With regard to the advisability of travel by air of patients with cardiovascular disorders, the authors are of the opinion that many patients now advised not to use commercial aviation could travel by air very safely. This is especially true for those persons who have flown prior to presenting evidence of cardiorespiratory disease.

Journal of Nervous and Mental Disease, New York

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Spontaneous Spinal Subarachnoid Hemorrhage: Case Report with Successful Surgical Intervention. F. Espey and W. B. Scoville.—p. 351.

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J. Pharmacalogy & Exper. Therap., Baltimore

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N-Allylnormorphine: Effects of Single Doses and Precipitation of Acute "Abstinence Syndromes" During Addiction to Morphine, Methadone or Heroin in Man (Post-Addicts). A. Wikler, H. F. Fraser and H. Isbell. —p. 8.
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Studies on Sympathomimetic Amines: I. Biotransformation and Physiological Disposition of 1-Ephedrine and 1-Norephedrine. J. Axelrod. —p. 62.
Urinary Excretion of d-Tubocurarine in Man. W. Kalow.—p. 74.
Appearance of Procaine in Spinal Fluid During Peridural Block in Man. M. J. Frumin, H. Schwartz, J. J. Burns and others.—p. 102.

Kentucky State Medical Assn. Journal, Bowling Green

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*Aureomycin in Prophylaxis of Rheumatic Fever. L. V. McVay Jr. and D. H. Sprunt.—p. 387.
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Original Apparatus for Colostomy Irrigation. A. Hurwitz and D. B. Alderman.—p. 410.

Chlortetracycline (Aureomycin) in Prophylaxis of Rheumatic Fever.—Long-term prophylaxis of rheumatic fever is extremely desirable because the mildness of micrococcic (streptococcic) infections causes them to go unrecognized in many cases and because control of this disease is especially essential to the attack on heart disease as a whole. The use of sulfonamides and penicillin has proved somewhat effective, but unsatisfactory for long-term use, because of toxicity to the patient and development of resistance on the part of the bacteria. A study of 35 patients in Memphis, Tenn., 23 treated with chlortetracycline (aureomycin) and 12 used as a control group, revealed the efficacy of administering 500 mg. of chlortetracycline daily over a period of from 2 to 20 months. Undesirable side-effects were slight, and there was no evidence of the development of resistant strains of group A beta hemolytic micrococci.

Northwest Medicine, Seattle

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Surgery, St. Louis

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*Certain Physiologic, Pathologic, and Surgical Features of Complete Transposition of Great Vessels. C. W. Lillehei and R. L. Varco. —p. 376.
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*Combined Adrenalectomy-Sympathectomy in Treatment of Patients with Essential Hypertension. H. A. Zintel, J. A. Mackie, W. A. Jeffers and others.—p. 438.
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Management of Cirrhosis of Liver and Ascites with Particular Reference to Portacaval Shunt Operation. D. V. Habif, H. T. Randall and H. S. Soroff.—p. 580.
Aftermath of Perforated Duodenal Ulcer. S. J. Stabins.—p. 614.
Extravagal Influences on Gastric Hydrochloric Acid Secretion Induced by Stress Stimuli. J. D. French, R. L. Longmire, R. W. Porter and H. J. Movius.—p. 621.

Complete Transposition of Great Vessels.—Between 1946 and 1952, 29 cases of complete transposition of the aorta and pulmonary artery were observed by the authors in 17 boys and 12 girls at the department of surgery of the university of Minnesota medical school. The prognosis of this condition is unfavorable. The occurrence of the characteristic triad of persistent and severe cyanosis, dyspnea, and failure to gain weight in an infant suggests the possibility of the presence of complete transposition of the great vessels. Angiocardiography, by injection of an opaque medium into a systemic peripheral vein, is very helpful in establishing the diagnosis of complete transposition. In 9 of the 29 patients angiograms were performed with no serious complications. Complete transposition is usually incompatible with a prolonged life unless an associated defect is present to allow some mixing of blood between the two basically separate pulmonic and systemic circulations. Infants most desperately ill have hearts with fewer associated anomalies and are, therefore, the best candidates for surgical treatment with an eventual goal of cure in this anomaly. The authors preferred an attempt to correct complete transposition of the great vessels anatomically by transposing all of the pulmonary veins and both venae cavae to match the abnormally reversed relationships of the aorta and pulmonary artery. Evidence is suggestive that patients with such a corrected circulation are physiologically normal and might anticipate a relatively normal life expectancy in the absence of other abnormalities. Of the 29 patients with complete transposition of the great vessels, 8 have been operated on. In the first four patients all of the right pulmonary veins were anastomosed to the right atrium. Two of these patients died and two survived, with both of the latter exhibiting significant objective and subjective improvement. This operation alone is not recommended unless large internal shunts are known to exist, because of the danger of inducing rapid heart failure in patients without adequate internal collateral shunts by unbalancing the systemic and pulmonic circulations. In four other patients, the inferior vena cava was shifted to the left atrium and the site of the cardiac end of the transected right pulmonary veins, the lung ends of which were anastomosed to the right atrium. None of these four patients survived. Because of these failures the authors believe that a previously prepared, but nonfunctioning, temporary and/or permanent preliminary shunt must be available so that once the blood flows from the pulmonary veins into the right auricle an appreciable amount of vena caval blood can be returned immediately to the left auricle in a compensating fashion. Their present plan, not yet tested, visualizes use of the azygos vein, canulated with as wide a bore polythene tube as it will accept, for shunting the blood from the superior vena cava into the tip of the right auricle.

Combined Adrenalectomy-Sympathectomy in Essential Hypertension.—Bilateral resections of the adrenal glands combined with bilateral sympathectomies of various types were performed on 29 women and 40 men between the second and sixth decades of life with severe arterial hypertension. The largest single group of patients had a removal of 95 to 98% of the total adrenal tissue, combined with a subdiaphragmatic sympathectomy and splanchnicectomy. It was found by experience that it was necessary to remove almost all of the adrenal tissue in order to obtain adequate reduction in blood pressures in most patients. There were two operative deaths, an operative mortality of 2.9%. Since operation nine additional patients died, making the over-all mortality 15.9%. Nine of the 11 patients who died were in group 4 of Smithwick's classification. Of the 69 patients, 21 obtained excellent results with postoperative blood pressures of 140/90 ± 10 mm. Hg in reclining and standing positions, 13 satisfactory results with blood pressure 140/90 ± 10 mm. Hg in standing position only, 28 continued to run elevated pressures but had improvement in symptoms and/or signs, and 7 were not benefited by the operative procedure. It is significant that 82% of the patients belonging to group 4 according to Smithwick's classification were benefited by the operation. A large number of these patients, who were previously considered unsuitable for sympathectomy alone, are now living and enjoying a more comfortable existence than they were before operation. Most of the patients with a favorable response in blood pressure require small daily doses of cortisone, desoxycorticosterone, and sodium chloride. The need for replacement therapy is best determined by the subjective symptoms of weakness and fatigue, which usually occur in advance of changes in blood chemistries. The need for close follow-up contact with these patients by a group entirely familiar with the patients and their backgrounds cannot be too highly emphasized.

Portal Venography Via Portal and Splenic Routes.—Roentgen definition of the normal anatomy of the portal venous bed was established by injecting 200 to 250 cc. of a thin barium sulfate mixture under minimal pressure into the superior mesenteric vein or inferior mesenteric vein of 50 fresh postmortem subjects in whom clinical and necropsy findings clearly excluded the possibility of portal hypertension. Thus roentgenograms of the portal venous bed were obtained which revealed three major anatomic types with respect to the relative position of splenic to portal vein; these have been designated as the tripod type, T type, and Y type. Anatomic variants with respect to the point of entry of the principal secondary tributaries entering the portal system were confirmed by the authors' roentgenographic studies as follows: The inferior mesenteric vein may join with splenic vein or the superior mesenteric vein, or enter in the crotch formed by the confluence of the splenic and superior mesenteric veins. The coronary vein also presents three varying points of entry, into the splenic or portal veins, or at the confluence of the two veins. As a result of these experiences, roentgen visualization of the portal venous bed at the time of operation is now routinely done in all patients with portal hypertension. Two techniques are used sequentially for operative portal venography: 1. The splenic portagram is accomplished prior to surgical incision, by the percutaneous injection of 40 to 50 cc. of a 70% sodium acetrizoate (Urokon sodium) solution into the splenic pulp through the ninth intercostal space. Laparotomy is then carried out through a short upper abdominal transverse incision. 2. In preparation for the portal portagram, the superior mesenteric vein is then isolated and canalized with a polyethylene catheter, and 40 to 50 cc. of a 30% sodium acetrizoate solution rapidly injected into the portal circuit within five to seven seconds. With the use of both types of roentgenograms operative portal venography has proved to be a valuable aid in the rational selection of portacaval or splenorenal shunt.

Portacaval Anastomosis for Portal Hypertension.—Of 25 patients with portal hypertension, all of whom had esophageal varices and gastrointestinal bleeding, 1 underwent splenectomy alone for congestive splenomegaly (Banti's syndrome), and 24 had a shunt operation, 17 for cirrhosis of the liver, and 7 for extrahepatic portal obstruction. Of the shunt operations, 14 were splenorenal anastomoses and 10 were portacaval of the side-to-side type. All patients survived the operation, and the follow-up period ranged from one to five years. The results of the shunt operations were rather disappointing in the patients with cirrhosis of the liver. Liver function tests did not show improvement in any patient but tended toward increased liver damage in all. Of the 17 patients, 9 derived temporary benefit in the regression of esophageal varices and cessation of gastrointestinal bleeding but relapsed and died within one year; 5 showed no improvement, and 3 remained well for more than one year. All of the deaths or relapses were accompanied by liver failure. Of the seven patients with extrahepatic portal obstruction, all were benefited immediately and in three the benefit was lasting. From this limited experience it appears that the portacaval shunt corrects only one of the factors responsible for bleeding from esophageal varices, and produces at best a temporary benefit. There is evidence that even partial deviation of the portal flow may impair liver function. Further experience is necessary before proper evaluation of portacaval shunts can be made.

Texas State Journal of Medicine, Fort Worth

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Clinical Effects of Khelltron in Angina Pectoris. M. R. Hejtmancik, E. D. Futch and G. R. Herrmann.—p. 679.
*Present Status of ACTH and Cortisone in Management of Cutaneous Diseases. W. C. King, and C. S. Livingood.—p. 682.
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*Inactivated Influenza Virus Vaccine in Therapy of Herpes Zoster: Clinical Evaluation. C. M. Griswold and S. S. Bowen.—p. 693.
Office Mycology: Report on 1,000 Cultures Taken in General Dermatologic Practice. M. Polsky.—p. 696.
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Treatment of Lacrimal Drainage System Disorders. E. R. Viers.—p. 704.
Present Status of Corneal Transplantation. L. Daily Jr. and R. K. Daily. —p. 706.
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Evaluation of Recent Developments in Neuro-Otologic Diagnosis. W. P. Anthony and H. A. Brown.—p. 711.
Acute Lupus Erythematosus: Treatment with Prolonged Administration of Cortisone Orally; Case Report. L. M. May.—p. 718.

Corticotropin and Cortisone in Cutaneous Diseases.—King and Livingood feel that, on the basis of experiences since the introduction of corticotropin and cortisone four years ago, it is possible to adopt certain general principles that serve as a guide in selecting patients for such treatment. Each patient must be considered individually. If the disease is a potentially fatal one (pemphigus, acute disseminated lupus erythematosus, or a severe drug sensitivity reaction), administration of corticotropin and cortisone is indicated and indeed mandatory even if contraindications exist, such as hypertensive cardiovascular disease, peptic ulcer, or psychosis. If the patient has a disease which is nonfatal, the physician is not justified in accepting the possibility of any type of complication by therapy, even if it may be presumed to be transient and of little consequence, for example, temporary hypertension and slight fluid retention. Before treatment with corticotropin or cortisone is instituted, a complete history and physical examination is necessary with particular emphasis on the presence of tuberculosis, peptic ulcer, and cardiovascular, renal, and neuropsychiatric disorders. A chest roentgenogram should be made, if indicated by the history or physical examination. Urinalysis is also essential. Statements with regard to specific dosages are impossible. Often doses for the same patient must be changed from day to day. The goal is the suppression of the acute manifestations of the disease as quickly as possible —this to be followed by reduction of the dosage to a minimum maintenance level, and if indicated, gradual withdrawal of the drug. For the majority of patients, the initial dosage is 300 to 400 mg. given in divided doses during the first 24 hours and followed by gradual reduction to a maintenance level of 100 mg. or less. Maintenance therapy is not necessary in self-limited dermatoses such as acute contact dermatitis and consequently the drug is withdrawn gradually in from 4 to 14 days. Patients who require maintenance therapy (acute disseminated lupus erythematosus, exfoliative dermatitis, and pemphigus) are generally managed more satisfactorily if the dosage of cortisone is not more than 75 mg. daily. A broad knowledge regarding all aspects of the management of cutaneous diseases is essential if the physician is to use corticotropin and/or cortisone appropriately and safely.

Influenza Virus Vaccine in Herpes Zoster.—Griswold and Bowen used an inactivated influenza virus vaccine in more than 250 patients with herpetiform conditions. This treatment was suggested to them by Swinny in 1949. They use a vaccine composed of equal parts of formalin-inactivated types A and B influenza virus prepared from the virus infected allantoic fluid of chick embryos. They inject 0.5 cc. subcutaneously as early as possible in the course of the disease and repeat this dose in 24 or 48 hours, and again, if necessary within another 48 hours. Of 100 patients with herpes zoster treated with the influenza virus, 63 patients were adjudged to have severe involvement, 30 moderately severe, and 7 mildly severe. The average number of injections was 2.64. Resolution of lesions manifested by drying of the vesicles and crust formation took place in 95% of the cases within 10 days. The outlook for satisfactory results was materially enhanced by the early administration of the vaccine. Patients who had the dermatological lesions for a week or longer and had neuralgic pain showed considerably less response than patients in whom the disease was of shorter duration. Influenza virus vaccine is valuable in herpes zoster, because it inhibits the appearance of new lesions, dries up old lesions, lessens pain in early cases, and reduces the incidence of postherpetic complications, although it appears to have no effect on postherpetic pain. The ease of administration, lack of side-reactions, and low cost of the treatment make it satisfactory for the ambulatory office patient. Herpes simplex also responds promptly to injections of influenza virus vaccine. Of about 150 patients with herpes simplex who received injections of influenza virus vaccine, 67% showed a response to one injection of the vaccine. Some patients who had recurrent episodes of herpes simplex were convinced that a series of five injections given at weekly intervals prevented the recurrent outbreaks for a period of seven to nine months, but permanent immunity apparently is not produced by this treatment.

U. S. Armed Forces Med. J., Washington, D. C.

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Closure of Granulating Wounds with Adhesive Straps. A. W. Spittler and J. W. Batch.—p. 1325.

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Virginia Medical Monthly, Richmond

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Unusual Complications in Diabetes Mellitus—Case Report. D. R. Packard, F. S. Beazlie Jr. and A. A. Creecy.—p. 557.

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Inflammatory Ringworm in Man Due to Trichophyton Faviforme Contracted from Cattle. T. W. Murrell Jr. and J. D. Reid.—p. 572.

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Cancer of Thyroid: Incidence and Relation to Thyroid Diseases in Tidewater Area of Virginia and North Carolina. R. L. Payne Jr. and A. F. Strauss.—p. 578.

*An Appraisal of Anticoagulant Therapy of Myocardial Infarction. T. W. Green.—p. 581.

Ruptured Liver Due to Periarteritis Nodosa—Report of Case. E. M. Chitwood Jr.—p. 584.

Anticoagulant Therapy of Myocardial Infarction.—Despite the passage of eight years since the first introduction of the anticoagulants in the treatment of myocardial infarction, there is no unanimity of opinion concerning their value. This paper reviews the pertinent recent literature and draws some conclusions applicable for the average practitioner confronted with this problem. In two large hospitals, deaths caused by pulmonary emboli have risen in recent years, despite the widespread use of anticoagulants and vein interruption. The danger inherent in the administration of anticoagulants has not received due emphasis. The reported deaths from bishydroxycoumarin (Dicumarol) now exceed 100, and undoubtedly these are only a fraction of the actual number. During the period from 1948 to 1952 at the Johns Hopkins Hospital the author gained experience in the administration of bishydroxycoumarin to several thousand patients. There were no known fatalities caused by anticoagulants, and the system in use there could well be adopted by others. The prothrombin times were determined in a central laboratory and the bishydroxycoumarin therapy was ordered by the director of that laboratory and his assistants. Only a few persons with wide experience administered this therapy. Other anticoagulants with similar properties as bishydroxycoumarin have been introduced. The therapist should choose one agent and master its use. For maximum anticoagulant benefit for the first 48 hours, heparin should be used until bishydroxycoumarin becomes effective. The author concludes that anticoagulant therapy is not indicated routinely for the treatment of myocardial infarction, as good risk patients have no demonstrable need for it. Poor risk patients should receive these drugs according to present knowledge, although the final proof of their value is lacking. Bishydroxycoumarin should never be given in the presence of contraindications, in the absence of adequate control facilities, or by inexperienced therapists. Vitamin K_1 is an effective antidote and should always be available whenever bishydroxycoumarin is used.

FOREIGN

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Erythrocyte Sedimentation Rate in Patients with Radiopaque Calcifications in Thoracic Aorta. L. Kalliomäki and R. Kiviluoto.—p. 346.
Dosage of Sanocrysin in Arthritis and Tuberculosis. K. Secher.—p. 350.
•Treatment of Incipient Apoplexy with Intravenous Aminophylline. F. Mainzer.—p. 362.
Interrelationships of the Individual Plasma Phospholipids and Cholesterol in Health and in Long-Term Diabetes Mellitus. V. P. Petersen. —p. 375.
Serum Copper, Serum Iron and Total Iron-Binding Capacity of Serum in Patients with Chronic Rheumatoid Arthritis. P. Brendstrup.—p. 384.

Treatment of Incipient Apoplexy with Aminophylline Given Intravenously.—In a study of 12 hypertensive patients, to whom aminophylline was given intravenously, 9 patients with incipient apoplexy and 1 patient with transient angiospastic attacks were successfully treated. This study establishes for many cases the vasoconstrictor pathogenesis of cerebrovascular accident. According to this concept focal softening and possibly hemorrhage may be the final outcome of arterial vasoconstriction, which may in time cause irreversible structural damage to the nervous tissue by ischemia. Intravenously administered aminophylline immediately abolished all manifestations of apoplexy, coma, hemiplegia, and aphasia in the 10 successful cases, and in one of the two failures temporary improvement was noted. These results can be conceived of only in terms of the vasoconstrictor concept and are a new and decisive argument in favor of this interpretation. Euphylline (a proprietary preparation), one of the group of soluble theophylline preparations of which aminophylline is the prototype, was used in most cases.

Archiv für klinische Chirurgie, Berlin

275:477-582 (No. 7) 1953. Partial Index

Significance of Accident Cases for Clinical Surgery. Five Year Survey: 1947 to 1951. E. Gögler and H. Laqua.—p. 477.
•Experimental Vascularization of Heart Muscle. M. Wenzl and G. Wense. —p. 519.
Milk- and Sugar-Sensitivity After Gastric Resection. H. Pfisterer.—p. 528.
Dilatation of Common Bile Duct in Roentgenogram. F. Strnad.—p. 544.

Experimental Vascularization of Heart Muscle.—An attempt was made to improve the blood supply of the heart muscle of dogs by implanting vessels of the systemic circulation directly in the myocardium. In 10 animals, the internal mammary artery was implanted in the left ventricular wall, at a distance of about 1 cm. from the descending branch of the left coronary artery. The location in the left ventricle near the apex of the heart was selected because, according to experience, this is an area of predilection for infarcts. In addition, the descending branch of the left coronary artery supplies the largest area of muscles with blood. The effect of the vascularization experiments was tested after an interval of six to eight months. Indirect proof of sufficient vascularization was provided in two dogs by ligation of the left coronary artery and vein with a ligature near the origin of the descending branches of the two vessels; it did not result in a loss of contractility in the ischemic area of the pericardium in the course of a prolonged observation of the beating heart. Both animals survived the ligature of the descending branch of the left coronary artery without impairment of their general condition and work capacity. Satisfactory and continuous filling of the entire coronary system with the contrast medium on roentgenologic examination seven months after the implantation in five of six animals was considered direct proof of the communication of the internal mammary artery with the coronary vascular system. A contrast medium depot in the passage between the internal mammary artery and the coronary vascular system was considered a manifestation of newly formed blood vessels. Such communication could not be demonstrated in only one dog, and, consequently, obliteration of the mammary artery had to be considered; it was undoubtedly due to a technical fault. Further microscopic studies are necessary for a definite explanation of the genesis of the alternative blood supply to the myocardium. The histological aspects of numerous thin-walled, irregularly shaped vessels and capillary vessels in the abundantly indurated connective tissue that surrounded the implanted vessel corresponded to that observed in so-called organizing inflammation and recanalization. There seems to be no contraindication to the application of the authors' method of vascularization of the heart muscle to the human heart despite the considerable differences between the experimental surgical intervention on the normal heart of a dog and the therapeutic intervention on the heart of a patient with coronary sclerosis, as well as between experimental ligature of a branch of a coronary vessel and the arteriosclerotic vascular occlusion. The ischemic human heart muscle shows even a particular tendency to the formation of anastomoses.

British Journal of Ophthalmology, London

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British Journal of Urology, London

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•Renal Adenoma: Review with Report of Two Further Cases. P. Childs and W. B. Waterfall.—p. 187.
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Giant Hydronephrosis in Double Kidney. P. J. Dennehy.—p. 247.
Jean Baseilhac (Frère Côme). B. B. Hickey.—p. 252.

Renal Adenoma.—According to Childs and Waterfall benign adenoma of the kidney requiring surgical treatment is not often reported, but each of them within a few months of each other, observed a case. A review of the literature disclosed that small adenomas of the kidney are seen not infrequently in routine postmortem examinations. The true incidence is difficult to determine; the smallest adenomas may escape detection because specific search is not made for them. The incidence of adenomas is equal in the two sexes but increases with increasing age. Reports of examination of large numbers of kidneys emphasize the association of adenomas with arteriosclerotic change in the kidney. The incidence of adenoma as well as carcinoma increases after middle life and parallels the incidence of vascular disease of the kidney. Adenomas may be barely visible to the naked eye, or they may reach the dimensions of the tumor described in one of the two cases presented here. The specimen, which consisted of a kidney and a large ovoid mass, weighed 2,470 gm. The presence of a mass in the case of larger tumors and hematuria in the smaller ones are the commonest presenting features. Pain may be present as an ache in the loin or as renal colic due to the passage of a blood clot. The diagnosis of renal tumor is made by intravenous and retrograde pyelography. Filling defect, distortion of calyces and renal pelves, and alteration in renal shadow may be seen. The diagnosis made will normally be that of carcinoma of kidney, but the even outline of the filling defect and possible smooth elongation of the calyces may arouse suspicion. The treatment of choice is nephroureterectomy because it is impossible to be certain that the tumor is not malignant. If it were possible to be sure of the diagnosis, then nephrectomy would suffice, and even successful partial nephrectomy has been reported. In the two cases presented, the tumors were large but neither was associated with heavy bleeding. Radiologically both specimens showed smooth filling defects, and in one case elongation of the calyces was noted. Both tumors were associated with hypertension of some degree, yet in neither case did the adjacent renal tissue show arteriosclerotic change. Histologically both tumors showed the solid structure that is usual in the larger specimens, and it is interesting that the largest of the two was essentially tubular in structure. Neither tumor showed any suggestion of malignancy, but either might well have undergone carcinomatous change had the cell type been less typical.

British Medical Journal, London

2:579-634 (Sept. 12) 1953

Tuberculosis and Leprosy: Immunological Studies in Healthy Persons. J. Lowe and F. McNulty.—p. 579.
Bronchial Carcinoma: Incidence and Aetiology. R. Doll.—p. 585.
*Approach to Psoriasis. J. T. Ingram.—p. 591.
Urinary Steroid Excretion in Rheumatoid Arthritis: Changes in Ketonic and Non-Ketonic Fractions During Hormone Therapy. A. E. Kellie and A. P. Wade.—p. 594.
Post-Gastrectomy Syndrome: Deviation of Afferent Loop from Gastro-Intestinal Anastomosis. J. E. Schofield and P. St.G. Anderson.—p. 598.
Rabbit Serum Containing Specific Agglutinin for Red Cells of Newborn. E. W. Ikin, H. Lehmann and A. E. Mourant.—p. 602.
Alcohol-Induced Pain in Hodgkin's Disease. J. G. de Winter.—p. 604.
*Fatal Anaphylactic Shock Due to Penicillin. J. F. Pick and J. F. Patterson.—p. 605.
Local Infection with Pasteurella Septica Following Dog-Bite. D. F. V. Brunsdon and B. L. Mallett.—p. 607.

Approach to Psoriasis.—Psoriasis is a constitutional disorder expressive of disturbed adjustment between the patient and his environment. Allergic reactions may occur in psoriatic patients, but there is nothing to indicate that psoriasis is an allergic disease. Constitutional disorders tend to fall into groups, each characterized by a primary sphere of maladjustment. The maladjustment in psoriasis apparently involves the effect on the patient of his climatic environment. The incidence of psoriasis is highest among white persons living in temperate climates. Seasonal variation is common, and the condition is generally worse in winter than in summer. Secondary influences, which may be infective, endocrine, or nervous, are important in psoriasis, sometimes assuming the predominant etiological role. The condition, which occurs only in man, is primarily and essentially an epidermal reaction, and this fact may explain the importance of local therapy. Complete clearance of an eruption within two or three weeks is possible in almost every patient. The treatment used routinely at Leeds consists of a daily 10 minute bath in 20 gal. (75.6 liters) of water containing 4 oz. of a coaltar solution, followed by exposure after drying to an ultraviolet mercury vapor lamp, beginning with 30 seconds at 3 ft. (91.4 cm.), increased gradually as necessary to maintain a near-erythema dosage. A paste consisting of dithranol, 0.13 gm.; salicylic acid, 0.65 gm.; zinc oxide, 8 gm.; starch, 8 gm.; and soft paraffin (melting point 46 C) to 31 gm., is then applied to each lesion and allowed to dry. Talcum dusting powder may be used if desired. The patient is then covered with a stockinet sleeve dressing—vest, arms, and legs—after which he may dress and pursue his normal routine, returning in 24 hours for another treatment. Dithranol is an oxidizing agent, and it must be used judiciously to prevent irritation or burning of the normal skin. The zinc paste cannot be used on the scalp at any time but should be replaced with dithranol ointment B.P. or a pomade with mercury, salicylic acid, and tar, or both. Individual variations may be necessary in certain cases, but treatment must be continued until the skin is completely clear; not a single active lesion can be left if extension is to be avoided. Hospitalization is advisable, especially for a first course of treatment, but good results can be obtained even by modified home therapy. A daily bath with tar soap and regular care of the scalp are desirable as prophylactic and maintenance measures after the psoriasis has cleared.

Fatal Anaphylactic Shock Resulting from Penicillin.—The symptoms of sensitivity to penicillin are varied and range from a simple urticarial rash to severe and even fatal anaphylactoid reactions. A 31-year-old woman with bronchial asthma of 2½ years' duration, frequently associated with respiratory infection, was treated for four days in January, 1952, with penethamate (Estopen) hydrochloride, 500,000 units daily, and epinephrine (Adrenalin) hydrochloride as necessary. She had no unusual symptoms. She had a fresh respiratory infection accompanied by an attack of asthma in December, 1952. Treatment with penethamate was again instituted; the first injection of 500,000 units, given immediately after 0.5 ml. of 1:1,000 solution of epinephrine hydrochloride, was followed by a slight headache and a feeling of faintness, which passed in a few minutes. The second injection, consisting of 500,000 units accompanied by 0.75 ml. of hyperduric epinephrine given the next day, was followed five minutes later by pre- cordial pain lasting for several seconds. After this the patien appeared quite normal and conversed normally for another five minutes; then she suddenly collapsed and lost conscious- ness. Respirations became gasping and infrequent, and the woman died after a few minutes. A severe reaction on the first day may have been prevented by the simultaneous ad- ministration of epinephrine with the first injection, and the fact that slow-acting hyperduric epinephrine was given with the second injection may have allowed the fatal reaction to take place. Deaths resulting from penicillin hypersensitivit are fortunately very rare, but the possibility that fatal ac- cidents may occur should be emphasized. There is no pre- dictable pattern in penicillin hypersensitivity reactions—severa courses of penicillin may not give rise to symptoms befor and even after severe allergic reactions. Death may be cause by either crystalline or procaine penicillin, and careful inquir for signs of previous allergic phenomena should be mad before penicillin of any kind is repeatedly administered to an patient.

Journal de Médecine de Lyon

34:675-700 (Sept. 5) 1953. Partial Index

*Walking Test Before Decision on Mitral Commissurotomy. M. Lehmann and F. Karali.—p. 675.
Treatment of Gastroduodenal Hemorrhages of Ulcerous Origin. M. Girard. —p. 685.

Walking Test Before Decision on Mitral Commissurotomy.—Performance of the walking test serves as a check against the symptoms described by the patient. The test is simple and virtually without danger. It consists of a careful examination of the patient with regard to pulse rate, respiration, maximum breath holding, pulmonary auscultatory signs, and electrocardiogram recording. Next, the patient rapidly walks a 440 meter course having a 2.5 meter elevation. The test administrator accompanies the patient both going and returning and notes the time required for the entire trip and for each half. Finally there is a reexamination of the pulse rate, respiration, maximum breath holding, and pulmonary auscultatory signs. These are repeated every five minutes after a second new electrocardiogram has been made, until the patient returns to normal. When he has recovered, he is carefully interrogated as to the sensations experienced during the walking test. Responses of the 45 patients with mitral endocarditis tested were classified in four types: major tests (7 patients), in which pulmonary edema or hemoptysis appeared; clearly positive tests (13 patients), in which pulmonary auscultatory signs or fits of coughing appeared; feebly positive tests (13 patients), in which slight coughing and general disturbances appeared during the test itself; and negative tests (12 patients). Seven of this last group were operated on, on the basis of other evidence; six of them had mitral stenosis. These patients had not reacted normally to the walking test; it is to be hoped that further improvements in the test will enable it to incorporate these subtler symptoms.

Journal Neurol., Neurosurg. & Psychiatry, London

16:127-212 (Aug.) 1953

- Tumours of Glomus Jugulare. R. A. Henson, J. V. Crawford and J. B. Cavanagh.—p. 127.
- Pathological Report of Case of Phenylpyruvic Oligophrenia. J. A. N. Corsellis.—p. 139.
- Nervous Discharge from Small Painless Lesions in Skin and Muscle. P. W Nathan.—p. 144.
- Examination of Cerebrospinal Fluid and Cerebral Cyst Fluid by Paper Strip Electrophoresis. J. N. Cumings.—p. 152.
- Early Diagnosis of Tumours of Cauda Equina. J. N. Milnes.—p. 158.
- Nocturnal Myoclonus. C. P. Symonds.—p. 166.
- Familial Hemiplegic Migraine. C. W. M. Whitty.—p. 172.
- Periodic Paralysis. E. R. Bickerstaff.—p. 178.
- Ribosuria in Muscular Dystrophy. W. B. Matthews and M. J. H. Smith. —p. 184.
- Personality Changes After Operations on Cingulate Gyrus in Man. P. M. Tow and C. W. M. Whitty.—p. 186.
- Photo-Metrazol Sensitivity in Catatonic Schizophrenia. D. M. Leiberman and J. Hoenig.—p. 194.
- Electromyographic Studies of Emotional States in Normal Subjects. P. P. Newman.—p. 200.

Medical Journal of Australia, Sydney

2:121-160 (July 25) 1953

- Fevers of Mackay District, Queensland. E. H. Derrick, A. H. Berry, J. I. Tonge and H. E. Brown.—p. 121.
- *Surgical Treatment of Spontaneous Subarachnoid Haemorrhage. J. L. Dowling.—p. 130.
- Polarographic Cancer Test. F. Ofner.—p. 135.
- Heredity and Mental Disorder. S. J. Cantor.—p. 138.
- Infective Hepatitis: Discussion on Its Mode of Spread in Families. D. J. R. Snow.—p. 139.
- Rheumatoid Arthritis: System of Treatment. C. M. Marshall.—p. 142.

Surgical Treatment of Spontaneous Subarachnoid Hemorrhage.—Spontaneous subarachnoid hemorrhages are caused by the rupture of intracranial aneurysms, and the patient's subsequent course, if he survives the initial accident, depends on the size of the rupture, the cessation, continuation, or recurrence of bleeding, and the extent to which the surrounding nervous tissue has been damaged. Recovery may be complete or may be accompanied by neurological sequelae. The most constant physical finding is neck rigidity not infrequently associated with bilateral Kernig and Babinski signs. The intense headache which usually precedes the hemorrhage is followed by impairment of consciousness, varying from slight clouding to deep coma, and perhaps a few epileptiform fits. The finding of uniformly blood-stained cerebrospinal fluid on lumbar puncture will confirm the diagnosis. An intracranial aneurysm should be suspected when a patient presents certain clinical syndromes, notably (1) oculomotor nerve palsy associated with severe supraorbital pain; (2) bilateral hemianopia with intense headaches and a normal sella on x-ray examination; or (3) unilateral blindness in the absence of any local disease of the eye. Discovery of an intracranial aneurysm before rupture has occurred should lead to prompt institution of treatment, because it is impossible to say just when the bursting point will be reached. Conservative treatment is sometimes successful, but when a patient has survived an initial hemorrhage, he should be examined angiographically as soon as his condition permits; if an aneurysm is found on the carotid system, surgical treatment should be seriously considered. The choice of treatment, either arterial ligation in the neck or a direct intracranial attack on the aneurysm itself, will depend on the position of the aneurysm, the efficiency of the anastomotic circulation, and the patient's general condition. The presence of an intracranial aneurysm was demonstrated in 28 patients seen by the author; of these, 24 were treated surgically, 23 by carotid ligation and one by a direct attack. Six of the 24 patients died; three were in a desperate condition and might have been refused operation, one had a massive aneurysm beyond the scope of surgical cure, one had an abnormal circle of Willis with unsuspected atheroma, and only one died as a result of recurrent hemorrhage. Eighteen of the surviving patients are leading useful lives; one is recovering from hemiplegia, one, who is clinically well though idle, is considered untrustworthy, and in only one does incapacity appear to be permanent.

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axillary and in appear early. The diagnosis of pulmonary cryptococcosis is made by isolating the causative organism in the sputum of the patients, preferably from secretions obtained by bronchial aspiration. The authors report three fatal cases of pulmonary cryptococcosis in patients with a clinical and histopathologic diagnosis of Hodgkin-Sternberg's lymphogranulomatosis. Cryptococcus neoformans (Torula histolytica) was isolated from the sputum of the three patients. In the only case in which a necropsy was made, C. neoformans was isolated from the lymph nodes, the bone marrow, the lung, and the spleen. Pulmonary cryptococcosis should be considered in the differential diagnosis of pulmonary and lymph node diseases of obscure origin and also as a probable associated or causal disease of Hodgkin-Sternberg's lymphogranulomatosis.

Schweizerische medizinische Wochenschrift, Basel

83:751-770 (Aug. 15) 1953. **Partial Index**

- *"Swing-Therapy" of Pulmonary Tuberculosis: Intermittently Administered Para-Aminosalicylic Acid and Streptomycin, Alternating Periodically with Isoniazid-Para-Aminosalicylic Acid; Early Results. E. Tanner, P. Baer and J. Wanner.—p. 751.
- Communication Concerning Reduced Resistance to Isonicotinic Acid Hydrazid (INAH) After Discontinuation of Treatment. A. Petit. —p. 754.
- Cation Exchange Resins in Treatment of Dropsy. A. F. Essellier, P. Jeanneret and H. Rosenmund.—p. 755.
- Physiological Bases of Amino Acid Metabolism and Their Significance in Therapy. H. Berger.—p. 761.

"Swing-Therapy" of Pulmonary Tuberculosis.—A new form of chemotherapy, the so-called swing-therapy, has been suggested for the treatment of pulmonary tuberculosis. An intermittent course of *p*-aminosalicylic acid and streptomycin for two months is followed by a one month course of isoniazid combined with *p*-aminosalicylic acid; streptomycin is administered intramuscularly in doses of 1 gm. on one of three days; isoniazid is given daily by mouth in doses of 5 mg. per kilogram of body weight; on two of three days, *p*-aminosalicylic acid is given by mouth in doses of 10 to 12 gm., or occasionally by infusion in doses of 20 gm. daily. Of 168 patients with pulmonary tuberculosis, 41 were given this "swing-therapy"; 59 received isoniazid alone, 23 were given combined treatment with isoniazid and *p*-aminosalicylic acid and 45 intermittently received *p*-aminosalicylic acid and streptomycin. Duration of treatment varied from three to eight months, and only that of "swing-therapy" up to 10 months. Comparison of observations in these four groups of patients showed that clinical, bacteriological and roentgenologic results obtained with "swing-therapy" were better than those with combined streptomycin and *p*-aminosalicylic acid treatment or with combined isoniazid and *p*-aminosalicylic acid treatment. Especially recent, dense extensive infiltrations showed definite regression. Periodical alternation of streptomycin and isoniazid with *p*-aminosalicylic acid as the basic drug proved reliable in preventing the occurrence of dr

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ated with Charpy, A. Stahl and P. Y. Castelain.—p. 2624.
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the cal Mechanism of Sensitization Eczema. J. Charpy, L. Oddoze,
hype·Stahl, and others.—p. 2639.
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Nervous Mechanism of Sensitization Eczema.—Contact eczema is primarily not an epidermal but a dermal syndrome; it is a vascular process in which the reaction begins with vasodilatation and progresses through inflammatory edema of the dermis, with secondary infiltration of the basal layer of the epidermis, which may or may not result in the formation of vesicles of varying size and location. Numerous experiments have been performed to show that contact eczema can appear only when the circulation of the blood and lymph is intact, but these experiments do not take into account the integrity of the nerve supply, which may also explain the results obtained. Study of the part played by the nervous system in the production of sensitization and in the precipitation of eruptive attacks in sensitized persons shows that the vesicular syndrome is the response of a central reflex set in motion by any bipolar irritation of a sensitive pathway. Experiments with guinea pigs proved that the presence of a chemical allergen on the skin in contact with the peripheral sensitive endings and the simultaneous application of the same allergen to the posterior ganglion sets up a specific bipolar irritation which immediately produces a vesicular eczematous syndrome. The same mechanism is responsible for the vesicular syndrome of herpes zoster. Ordinary, nonexperimental application of a chemical substance to the skin in conditions assuring its penetration results in transmission of the allergen to the ganglion by way of the nerves, and the time required for sensitization is the time it takes to complete the transfer. Once the bipolar irritation has been set up, it remains latent for a long time, reappearing in the form of fresh attacks of eczema whenever nonspecific central or even peripheral excitation of sufficient intensity occurs. The close connection between the surface of the skin and the sensitive pathways revealed by these experiments should throw new light on various other syndromes affecting the skin.

Tidsskrift for Den Norske Laegeforening, Oslo

73:625-655 (Aug. 15) 1953. Partial Index

*Relapse in Pulmonary Tuberculosis After Effective Operative Collapse Therapy. M. Seip.—p. 625.
Guillain-Barré Syndrome: Report of a Case with Respirator Treatment with Almost Complete Recovery. O. Mørstad.—p. 627.
Multilocular Renal Cyst with Bleeding. K. Bie.—p. 630.
Fatigue Fracture of Neck of Femur and Tibia. K. W. Wefring.—p. 631.
Conservative Treatment of Stress Incontinence in Women. P. A. Nilsen.—p. 633.

Relapse in Pulmonary Tuberculosis After Effective Operative Collapse Treatment.—In the follow-up of 537 patients from 3 to 14 years following successful collapse treatment by thoracoplasty or extrapleural pneumothorax, 131 relapses were registered—61 among the 216 thoracoplasty patients and 70 among the 321 extrapleural patients. *Seip estimates* that milder or more serious recurrences of the pulmonary tuberculosis are to be expected within 10 years after operation in about one-third of the patients effectively treated by these methods and within 15 years in about half the patients. The frequency of relapse does not decline noticeably from year to year as far as the examination has gone. Fatal relapses and relapses not cured to date were more frequent after thoracoplasty than after extrapleural pneumothorax. With both methods most of the relapses were in the untreated lung. In case of relapse the prognosis was better in the cases with small and moderate cavities in one apex and relatively more healthy lung tissue. In the long run recurrence of the pulmonary tuberculosis represents the greatest danger to these patients, and every effort should be made to save as much as possible of the pulmonary function. The main point in favor of extrapleural pneumothorax in collapse therapy is that it causes less interference with the pulmonary function.

Ugeskrift for Laeger, Copenhagen

115:1107-1138 (July 16) 1953

*Raw Egg Yolks as Supplement to Roentgen Treatment of Osteogenic Sarcoma in Children (Patients Under 18) from May 1, 1950, to May 1, 1952. C. Krebs.—p. 1107.

Raw Egg Yolks as Supplement to Roentgen Treatment of Osteogenic Sarcoma in Children.—Sarcomas of the bone usually start in the metaphysis or diaphysis, and, although they can penetrate muscles, fascia, vessels, and skin, they rarely advance beyond the epiphyseal line. For years Krebs has tried various methods for arresting the growth of these tumors, but of 32 patients treated in the 14 years up to May, 1950, none are living. Since that time he has supplemented roentgen treatment with the administration of eight raw egg yolks daily on the assumption that fresh raw egg yolks contain the necessary growth hormones. Possibly to increase calcium deposit, regarded as a factor in the healing process, the eggs used are from hens fed daily on common meal. The seven cases thus treated, in patients aged from 8 to 16, are described in detail. The average length of life for these patients is at least 626 days, and the survival time of three of the patients exceeds the life expectancy by more than four times the average expected.

Ztschr. f. d. ges. innere Medizin, Leipzig

8:573-620 (July 1) 1953. Partial Index

*Experiments with Hepatitis Virus. G. Wildführ.—p. 573.
Study of New Method for Influencing Erythrocyte Sedimentation Rate with Lithium-Carmine. D. Schmidt-Ramsin.—p. 581.
Treatment of Leukoses in Children with Cortisone and Corticotropin (ACTH). J. Oehme.—p. 591.
Chronic Cor Pulmonale Secondary to Pulmonary Embolism. K. Bobek and J. Vaněk.—p. 596.

Experiments with Hepatitis Virus.—The serum and the bile obtained from 169 patients with hepatitis were injected into hamsters or in hamsters and simultaneously in canary birds, green finches, or siskins. In parallel experiments serum and bile of patients with hepatitis were inoculated in chicken eggs, which had been incubated previously for 10 days and were incubated again for four days after the inoculation. Results showed that the infectious agent was transmitted from 26 of the 169 patients to hamsters alone, and from one patient to the chicken embryo alone; simultaneous transmission of the infectious agent from 8 patients occurred in hamsters and canary birds, and from 17 patients in hamsters and chicken embryos. In addition, positive results were also obtained with the passage of the chorioallantois, which had shown mild opacification, or with the sterile filtrate of pulverized, pathologically changed chicken embryo livers to incubated chicken eggs or to hamsters, and from hamsters back to chicken embryos. Certain irregularities in these experiments may depend on variation of resistance to the virus in the animals experimented on. Microscopic examination of the liver of the experimental animals and of the chicken embryos always showed the same changes among which necrosis was an important symptom. In the passage experiments, the incubation period was frequently shortened, but occasionally a prolonged incubation period was observed. These phenomena may have been caused by variations in the virulence of the pathogenic agent. A sudden stop of the passages was not a rare occurrence. *Absorption tests* with convalescence serums and viruses obtained by passage revealed the occurrence of several serologic types of the hepatitis virus: one type for the serogenous form of hepatitis; and at least two types for the epidemic hepatitis. Additional serologic types may be considered. Photographs made with the aid of the electron microscope of the *sterile, pathologically* changed liver *filtrates* showed small round corpuscles, 35 to 50 mμ in size. The same material proved to be infectious in animal experiments and specific in the absorption test.

BOOK REVIEWS

Dermatology in General Practice. By Jacob Hyams Swartz, M.D., Assistant Professor of Dermatology, Harvard Medical School and Post-Graduate School, Boston. Foreword by C. Guy Lane, M.D. Cloth. $11. Pp. 581, with 253 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2, 1953.

This book is intended for the general practitioner and serves well the purpose for which it was prepared. In it can be found excellent black and white illustrations; detailed information on clinical picture, etiology, differential diagnosis, and treatment that is offered in brief but informative style; and general discussions that provide a wealth of material sometimes overlooked in more didactic presentations of this subject. For example, there is a brief review of the anatomy of the skin, its physiology, and metabolic considerations. There is also a discussion of the care of normal as well as abnormal skin, and of the diseases of the hair and scalp, face, trunk, and other parts of the body. The reader who wonders about the care of the feet, hands, or face, the effect of sun exposure, the care of a wrinkled skin, the role of cosmetics, or the care of the baby's skin may find answers to his questions in this volume. There is an ample index, the type is plain and easy to read, and the size of the volume makes it handy to use.

The Ballistocardiogram: A Dynamic Record of the Heart Beat. By John R. Braunstein, M.D., Ph.D., Associate Professor of Biophysics and Assistant Professor of Medicine, University of Cincinnati, Cincinnati. Publication number 143, American Lecture Series, monograph in American Lectures in Circulation. Edited by Irvine H. Page, M.D., and A. C. Corcoran, M.D. Cloth. $3. Pp. 84, with 41 illustrations. Charles C Thomas, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

This monograph records two lectures delivered by Dr. Braunstein at the University of Cincinnati in 1951. The major portion of this book is concerned with physical principles of the ballistocardiogram and its physiological applications. There is a brief description of the abnormal ballistocardiogram and its relation to disease. The theory of the vector ballistocardiogram and design and construction of the instrument are discussed with diagrams in a short chapter. There is also an appendix in which some of the physical and mathematical constants of the instruments used are discussed in some detail. A short bibliography containing the important references in the field is given at the end of the book. This monograph is a good reference book for those already familiar to some extent with the subject of ballistocardiography.

Die Ostitis deformans Paget. Von Dozent Dr. med. habil. W. Hirsch, Oberarzt der medizinischen Universitätsklinik Leipzig. Cloth. 22 marks. Pp. 216, with 92 illustrations. Georg Thieme, Thomaskirchhof 21, (10b) Leipzig C 1, 1953.

Hirsch reports the results in a series of 136 patients with osteitis deformans (Paget's disease). Because this condition is still overlooked and erroneously classified as rheumatism, the appearance of this monograph is timely. Hirsch brings out that von Recklinghausen's views and Paget's views have been described by Engel and the findings attributed to one common disease, a concept that unfortunately found wide recognition. In his opinion not only is this an incorrect deduction but it represents retrogression as far as knowledge of this malady is concerned. He goes into great detail in correlating the clinical, roentgenologic, and pathological-anatomic studies of Schuchardt, Sternberg, Kienböck, Looser, and Schmorl. After a thorough evaluation of these studies, he is convinced that the osseous changes described by Paget and by Engel represent two basically different and distinguishable diseases. That the debate over the nature of osteitis deformans has not been closed is emphatically expressed. The theories regarding an inflammatory cause and the part played by primary vascular changes are admirably analyzed.

Hirsch has attempted to study the diagnostic problems of osteitis deformans in the light of functional and dynamic considerations not only from a theoretical point of view but also on the basis of his own studies. It is this latter fact which gives this presentation its greatest value. This work is mainly speculative and tries to correlate previous and modern knowledge. The literature is adequately and thoroughly covered. The reports on his personal series are flawless. For those interested in the chemical, cytological, histopathological, and roentgenologic aspects of this disease, this book will prove most illuminating. It is both a didactic as well as a philosophical approach to this still unexplained condition.

Atlas of Regional Dermatology. By Ernest K. Stratton, P.D., M.D., Research Associate, George Williams Hooper Foundation for Medical Research, University of California Medical Center, San Francisco, et al. Cloth. $15. Pp. 274, with illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

This book should appeal to all practitioners as well as to dermatologists, for the material is arranged by regional groupings, an arrangement that is useful for purposes of differential diagnosis. There are, for example, 22 illustrations of different scalp lesions, both common and unusual diseases, and 12 each of diseases of the lip and ear. Also grouped together are lesions of the upper limb, lower limb, face and neck, nails, mouth, and lip. In addition, there are special chapters devoted to leprosy and to the exanthems. A brief account of the etiology, symptoms, diagnosis, and treatment accompanies most of the illustrations. Of the 596 photographs, only 25, grouped into 7 figures, are in color; these are small but most of them are good. The others, of larger size in black and white, are as excellent as such illustrations can be. The pages are large, 8½ by 11 inches, on heavy glossy stock. There is a complete index. It is evident that an immense amount of effort went into the collection and selection of this group of photographs, and Stratton's statement that the book is intended primarily for the student who requires visual help in identifying skin diseases has been fulfilled.

Introduction to Medical Science. By Gulli Lindh Muller, M.D., Assistant Research Physician, Thorndike Memorial Laboratory of Boston City Hospital, and Dorothy E. Dawes, R.N., M.A., Science Instructor, Schools of Nursing, Greater Boston. Third edition. Cloth. $4.75. Pp. 610, with 114 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W.C.2, 1953.

The purpose of this book is to provide for the student nurse an over-all view of medical science prior to clinical instruction on the wards. Beginning with an outline of the history of medical progress, the authors proceed to discuss the role of the nurse in relation to the causes and manifestations of disease, methods of diagnosis, bases for treatment, preventive measures, and methods of control. Several chapters from the earlier edition have been completely rewritten, and additional information has been added on recent advances in medical science. New topics include recently isolated hormones, [illegible] function tests, radiation syndrome and the use of isotopes, recent advances in the therapy of mammary and prostatic cancer, the treatment of leprosy, surgery of the heart, the latest information on use of the antibiotics and the vitamins, and geriatrics. The discussion of public health agencies, including government organizations promoting health and welfare, has been brought up-to-date. New information has been added on sanitary conditions in the home and on other preventive medicine subjects. The book is clearly and concisely written and emphasizes the fundamental principles of medical science that will enable the nurse to make the proper adjustment to the needs of the patient, the physician, and the community.

These book reviews have been prepared by competent authorities but do not represent the opinions of any official bodies unless specifically so stated.

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the cal Mechanism of Sensitization Eczema. J. Charpy, L. Oddoze,
hype Stahl, and others.—p. 2639.
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Nervous Mechanism of Sensitization Eczema.—Contact eczema is primarily not an epidermal but a dermal syndrome; it is a vascular process in which the reaction begins with vasodilatation and progresses through inflammatory edema of the dermis, with secondary infiltration of the basal layer of the epidermis, which may or may not result in the formation of vesicles of varying size and location. Numerous experiments have been performed to show that contact eczema can appear only when the circulation of the blood and lymph is intact, but these experiments do not take into account the integrity of the nerve supply, which may also explain the results obtained. Study of the part played by the nervous system in the production of sensitization and in the precipitation of eruptive attacks in sensitized persons shows that the vesicular syndrome is the response of a central reflex set in motion by any bipolar irritation of a sensitive pathway. Experiments with guinea pigs proved that the presence of a chemical allergen on the skin in contact with the peripheral sensitive endings and the simultaneous application of the same allergen to the posterior ganglion sets up a specific bipolar irritation which immediately produces a vesicular eczematous syndrome. The same mechanism is responsible for the vesicular syndrome of herpes zoster. Ordinary, nonexperimental application of a chemical substance to the skin in conditions assuring its penetration results in transmission of the allergen to the ganglion by way of the nerves, and the time required for sensitization is the time it takes to complete the transfer. Once the bipolar irritation has been set up, it remains latent for a long time, reappearing in the form of fresh attacks of eczema whenever nonspecific central or even peripheral excitation of sufficient intensity occurs. The close connection between the surface of the skin and the sensitive pathways revealed by these experiments should throw new light on various other syndromes affecting the skin.

Tidsskrift for Den Norske Laegeforening, Oslo

73:625-655 (Aug. 15) 1953. **Partial Index**

*Relapse in Pulmonary Tuberculosis After Effective Operative Collapse Therapy. M. Seip.—p. 625.
Guillain-Barré Syndrome: Report of a Case with Respirator Treatment with Almost Complete Recovery. O. Mørstad.—p. 627.
Multilocular Renal Cyst with Bleeding. K. Bie.—p. 630.
Fatigue Fracture of Neck of Femur and Tibia. K. W. Wefring.—p. 631.
Conservative Treatment of Stress Incontinence in Women. P. A. Nilsen.—p. 633.

Relapse in Pulmonary Tuberculosis After Effective Operative Collapse Treatment.—In the follow-up of 537 patients from 3 to 14 years following successful collapse treatment by thoracoplasty or extrapleural pneumothorax, 131 relapses were registered—61 among the 216 thoracoplasty patients and 70 among the 321 extrapleural patients. Seip estimates that milder or more serious recurrences of the pulmonary tuberculosis are to be expected within 10 years after operation in about one-third of the patients effectively treated by these methods and within 15 years in about half the patients. The frequency of relapse does not decline noticeably from year to year as far as the examination has gone. Fatal relapses and relapses not cured to date were more frequent after thoracoplasty than after extrapleural pneumothorax. With both methods most of the relapses were in the untreated lung. In case of relapse the prognosis was better in the cases with small and moderate cavities in one apex and relatively more healthy lung tissue. In the long run recurrence of the pulmonary tuberculosis represents the greatest danger to these patients, and every effort should be made to save as much as possible of the pulmonary function. The main point in favor of extrapleural pneumothorax in collapse therapy is that it causes less interference with the pulmonary function.

Ugeskrift for Laeger, Copenhagen

115:1107-1138 (July 16) 1953

*Raw Egg Yolks as Supplement to Roentgen Treatment of Osteogenic Sarcoma in Children (Patients Under 18) from May 1, 1950, to May 1, 1952. C. Krebs.—p. 1107.

Raw Egg Yolks as Supplement to Roentgen Treatment of Osteogenic Sarcoma in Children.—Sarcomas of the bone usually start in the metaphysis or diaphysis, and, although they can penetrate muscles, fascia, vessels, and skin, they rarely advance beyond the epiphyseal line. For years Krebs has tried various methods for arresting the growth of these tumors, but of 32 patients treated in the 14 years up to May, 1950, none are living. Since that time he has supplemented roentgen treatment with the administration of eight raw egg yolks daily on the assumption that fresh raw egg yolks contain the necessary growth hormones. Possibly to increase calcium deposit, regarded as a factor in the healing process, the eggs used are from hens fed daily on common meal. The seven cases thus treated, in patients aged from 8 to 16, are described in detail. The average length of life for these patients is at least 626 days, and the survival time of three of the patients exceeds the life expectancy by more than four times the average expected.

Ztschr. f. d. ges. innere Medizin, Leipzig

8:573-620 (July 1) 1953. **Partial Index**

*Experiments with Hepatitis Virus. G. Wildführ.—p. 573.
Study of New Method for Influencing Erythrocyte Sedimentation Rate with Lithium-Carmine. D. Schmidt-Ramsin.—p. 581.
Treatment of Leukoses in Children with Cortisone and Corticotropin *(ACTH)*. J. Oehme.—p. 591.
Chronic Cor Pulmonale Secondary to Pulmonary Embolism. K. Bobek and J. Vaněk.—p. 596.

Experiments with Hepatitis Virus.—The serum and the bile obtained from 169 patients with hepatitis were injected into hamsters or in hamsters and simultaneously in canary birds, green finches, or siskins. In parallel experiments serum and bile of patients with hepatitis were inoculated in chicken eggs, which had been incubated previously for 10 days and were incubated again for four days after the inoculation. Results showed that the infectious agent was transmitted from 26 of the 169 patients to hamsters alone, and from one patient to the chicken embryo alone; simultaneous transmission of the infectious agent from 8 patients occurred in hamsters and canary birds, and from 17 patients in hamsters and chicken embryos. In addition, positive results were also obtained with the passage of the chorioallantois, which had shown mild opacification, or with the sterile filtrate of pulverized, pathologically changed chicken embryo livers to incubated chicken eggs or to hamsters, and from hamsters back to chicken embryos. Certain irregularities in these experiments may depend on variation of resistance to the virus in the animals experimented on. Microscopic examination of the liver of the experimental animals and of the chicken embryos always showed the same changes among which necrosis was an important symptom. In the passage experiments, the incubation period was frequently shortened, but occasionally a prolonged incubation period was observed. These phenomena may have been caused by variations in the virulence of the pathogenic agent. A sudden stop of the passages was not a rare occurrence. Absorption tests with convalescence serums and viruses obtained by passage revealed the occurrence of several serologic types of the hepatitis virus: one type for the serogenous form of hepatitis; and at least two types for the epidemic hepatitis. Additional serologic types may be considered. Photographs made with the aid of the electron microscope of the sterile, pathologically changed liver filtrates showed small round corpuscles, 35 to 50 mμ in size. The same material proved to be infectious in animal experiments and specific in the absorption test.

BOOK REVIEWS

Dermatology in General Practice. By Jacob Hyams Swartz, M.D., sistant Professor of Dermatology, Harvard Medical School and Post-aduate School, Boston. Foreword by C. Guy Lane, M.D. Cloth. $11. , 581, with 253 illustrations. Williams & Wilkins Company, Mount yal and Guilford Aves., Baltimore 2, 1953.

This book is intended for the general practitioner and serves ll the purpose for which it was prepared. In it can be und excellent black and white illustrations; detailed information on clinical picture, etiology, differential diagnosis, and eatment that is offered in brief but informative style; and neral discussions that provide a wealth of material somenes overlooked in more didactic presentations of this subject. or example, there is a brief review of the anatomy of the in, its physiology, and metabolic considerations. There is so a discussion of the care of normal as well as abnormal in, and of the diseases of the hair and scalp, face, trunk, d other parts of the body. The reader who wonders about e care of the feet, hands, or face, the effect of sun exposure, e care of a wrinkled skin, the role of cosmetics, or the care the baby's skin may find answers to his questions in this lume. There is an ample index, the type is plain and easy read, and the size of the volume makes it handy to use.

The Ballistocardiogram: A Dynamic Record of the Heart Beat. By John Braunstein, M.D., Ph.D., Associate Professor of Biophysics and sistant Professor of Medicine, University of Cincinnati. Cincinnati blication number 143, American Lecture Series, monograph in American ctures in Circulation. Edited by Irvine H. Page, M.D., and A. C. rcoran, M.D. Cloth. $3. Pp. 84, with 41 illustrations. Charles C omas, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific blications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 een St., W., Toronto 2B, 1953.

This monograph records two lectures delivered by Dr. raunstein at the University of Cincinnati in 1951. The major ortion of this book is concerned with physical principles of e ballistocardiogram and its physiological applications. There a brief description of the abnormal ballistocardiogram and s relation to disease. The theory of the vector ballistocardioram and design and construction of the instrument are dissussed with diagrams in a short chapter. There is also an ppendix in which some of the physical and mathematical onstants of the instruments used are discussed in some detail. short bibliography containing the important references in e field is given at the end of the book. This monograph is good reference book for those already familiar to some xtent with the subject of ballistocardiography.

Die Ostitis deformans Paget. Von Dozent Dr. med. habil. W. Hirsch, berarzt der medizinischen Universitätsklinik Leipzig. Cloth. 22 marks. p. 216, with 92 illustrations. Georg Thieme, Thomaskirchhof 21, (10b) eipzig C 1, 1953.

Hirsch reports the results in a series of 136 patients with steitis deformans (Paget's disease). Because this condition is till overlooked and erroneously classified as rheumatism, the ppearance of this monograph is timely. Hirsch brings out hat von Recklinghausen's views and Paget's views have been escribed by Engel and the findings attributed to one common isease, a concept that unfortunately found wide recognition. n his opinion not only is this an incorrect deduction but it epresents retrogression as far as knowledge of this malady is oncerned. He goes into great detail in correlating the linical, roentgenologic, and pathological-anatomic studies of Schuchardt, Sternberg, Kienböck, Looser, and Schmorl. After a thorough evaluation of these studies, he is convinced that he osseous changes described by Paget and by Engel represent two basically different and distinguishable diseases. That the debate over the nature of osteitis deformans has not been closed is emphatically expressed. The theories regarding an inflammatory cause and the part played by primary vascular changes are admirably analyzed.

Hirsch has attempted to study the diagnostic problems of osteitis deformans in the light of functional and dynamic considerations not only from a theoretical point of view but also on the basis of his own studies. It is this latter fact which gives this presentation its greatest value. This work is mainly speculative and tries to correlate previous and modern knowledge. The literature is adequately and thoroughly covered. The reports on his personal series are flawless. For those interested in the chemical, cytological, histopathological, and roentgenologic aspects of this disease, this book will prove most illuminating. It is both a didactic as well as a philosophical approach to this still unexplained condition.

Atlas of Regional Dermatology. By Ernest K. Stratton, P.D., M.D., Research Associate, George Williams Hooper Foundation for Medical Research, University of California Medical Center, San Francisco, et al. Cloth. $15. Pp. 274, with illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

This book should appeal to all practitioners as well as to dermatologists, for the material is arranged by regional groupings, an arrangement that is useful for purposes of differential diagnosis. There are, for example, 22 illustrations of different scalp lesions, both common and unusual diseases, and 12 each of diseases of the lip and ear. Also grouped together are lesions of the upper limb, lower limb, face and neck, nails, mouth, and lip. In addition, there are special chapters devoted to leprosy and to the exanthems. A brief account of the etiology, symptoms, diagnosis, and treatment accompanies most of the illustrations. Of the 596 photographs, only 25, grouped into 7 figures, are in color; these are small but most of them are good. The others, of larger size in black and white, are as excellent as such illustrations can be. The pages are large, 8½ by 11 inches, on heavy glossy stock. There is a complete index. It is evident that an immense amount of effort went into the collection and selection of this group of photographs, and Stratton's statement that the book is intended primarily for the student who requires visual help in identifying skin diseases has been fulfilled.

Introduction to Medical Science. By Gulli Lindh Muller, M.D., Assistant Research Physician, Thorndike Memorial Laboratory of Boston City Hospital, and Dorothy E. Dawes, R.N., M.A., Science Instructor, Schools of Nursing, Greater Boston. Third edition. Cloth. $4.75. Pp. 610, with 114 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W.C.2, 1953.

The purpose of this book is to provide for the student nurse an over-all view of medical science prior to clinical instruction on the wards. Beginning with an outline of the history of medical progress, the authors proceed to discuss the role of the nurse in relation to the causes and manifestations of disease, methods of diagnosis, bases for treatment, preventive measures, and methods of control. Several chapters from the earlier edition have been completely rewritten, and additional information has been added on recent advances in medical science. New topics include recently isolated hormones, liver function tests, radiation syndrome and the use of isotopes, recent advances in the therapy of mammary and prostatic cancer, the treatment of leprosy, surgery of the brain, the latest information on use of the antibiotics and the vitamins, and geriatrics. The discussion of public health activities, including government organizations promoting health and welfare, has been brought up-to-date. New information has been added on sanitary conditions in the home and on other preventive medicine subjects. The book is clearly and concisely written and emphasizes the fundamental principles of medical science that will enable the nurse to make the proper adjustment to the needs of the patient, the physician, and the community.

These book reviews have been prepared by competent authorities but do not represent the opinions of any official bodies unless specifically so stated.

Dermatologic Formulary. Frances Pascher, M.D., editor. From New York Skin and Cancer Unit, Service of Dermatology. (Dr. Marion B. Sulzberger, Director). Revised edition. Cloth. $3. Pp. 150. Paul B. Hoeber, Inc. (medical book department of Harper & Brothers), 49 E. 33rd St., New York 16, 1953.

This pocket-sized book is arranged in three sections: topical remedies, systemic therapy, and articles for clinic use such as cauterizing agents, biologicals, and local anesthetics. This comprehensive formulary is designed to meet the needs of a large dispensary and includes not only the time-tested older remedies but a large number of the newer preparations including steroids. With each prescription there are explanatory notes of the action and use of the drug, the disease for which the drug is indicated, directions for its use, and contraindications. Examples of all types of medicaments are included, and, when necessary, both the scientific and proprietary names are listed. It is a selected formulary, so that only four antihistaminic preparations, two superfatted soaps, and four antibiotics are included. The index lists, in addition to the drugs, the commoner disease entities and remedies for them. Altogether, it is a useful compilation that should be a great help in prescribing for dermatological diseases.

The Green and Red Planet: A Physiological Study of the Possibility of Life on Mars. By Hubertus Strughold, Professor of Aviation Medicine, Head of Department of Space Medicine, U. S. Air Force School of Aviation Medicine, Randolph Field, Texas. With editorial assistance and foreword by Green Peyton. Cloth. $4. Pp. 107, with illustrations. University of New Mexico Press, Albuquerque, New Mexico, 1953.

Strughold considers in detail the almost boundless versatility of living things and summarizes with equal care the mass of data now available as to the temperatures, pressures, and chemical situations existing on the surface of Mars. He concludes that life of an order comparable to ours is impossible on Mars or on any other known planet of our solar system. It is extremely probable that the conditions that permit life on our earth are closely duplicated in other places in the universe, but at distances so great that signals, traveling even with the speed of light, cannot reach them and be returned within the span of a human lifetime. While this paradox gives a tantalizing note to the author's theme, his analysis of the physiological problem will interest many medical readers.

Criteria for Retirement: A Report of a National Conference on Retirement of Older Workers. Editor: Geneva Mathiasen, Secretary, National Committee on Aging. Held at Arden House, Harriman Campus of Columbia University, January 24-26, 1952. Under sponsorship of McGregor Fund and National Committee on Aging of National Social Welfare Assembly. Cloth. $3.50. Pp. 233. G. P. Putnam's Sons, 210 Madison Ave., New York 16, 1953.

About 70 experts from government, business, unions, public health, social work; and universities participated in the conference of which this volume is the report. Part 1 of the book summarizes the purpose, discussions, and recommendations of the conference, and part 2 contains three monographs written for the convenience of the participants. The first, "Retirement from the Point of View of the Worker," was written by a faculty committee of the Graduate School of Public Health of the University of Pittsburgh; Harland Fox, research fellow of the Industrial Relations Center of the University of Minnesota, contributed "Responsibilities of Employers, Workers, Unions, and Government"; and "Economic Problems of Retirement" was prepared by Sumner H. Slichter, Lamont Professor of Economics at Harvard University. Three speeches given at the conference (by C. P. Cochrane, Industrial Relations Director of Eastman Kodak Company; Harry Becker, Associate Director of the Social Security Department of the UAW-CIO; and Theodore Klumpp, M.D., president of Winthrop-Stearns, Inc.) form part 3 of the volume.

The stated purpose of the conference was to discover some criteria other than chronological age for continued employment of older workers. Included in the large amount of information gathered to evaluate and explore the problem were factual data on age and population trends, income, employment, and retirement policies; professional opinions on the social, psychological, and physiological aspects of aging and retirement; the methods, advantages, and hazards of employing older workers; the administrative problems of retirement; and the effect of the employment or retirement of older persons on the national economy. The conference and this book are attempts to present and integrate data and opinions from many fields of experience and various points of view, as they bear upon the problems of our aging population. The scope and factual richness of this report present contributions on a subject that has been of increasing concern to us all. The broad conclusions of a majority of the participants were that all interests concerned would profit if older persons worked as long as they were willing and able; that an arbitrary upper age limit for retirement should be set high enough to affect very few workers and, in an age range below this, health and competence should determine retirement decisions; and that the plant physician and union and management representatives should make retirement decisions jointly.

Of special interest to physicians are sections on physiological age versus chronological age; physiological age and job performance, and the value of health records accumulated over the years in assessing the proper time for retirement.

Rudolf Virchow: Doctor, Statesman, Anthropologist. By Erwin H Ackerknecht. Cloth. $5. Pp. 304, with 3 illustrations. University of Wisconsin Press, 811 State St., Madison 5, 1953

This book is the first full-length study of a remarkable 19th century personality whose influence dominated three spheres of activity. First, as a 30-year-old pathology professor, Rudolf Virchow proposed the concept, later termed "cellular pathology," that the basic units of life are the self-reproducing cells of living bodies and that pathology primarily has to concern itself with cell changes. Second, as a politician, he served for more than 40 years in the Prussian parliament as one of the militant opposition leaders against Bismarck and was one o the symbols of a liberal Germany until death intervened Finally, as an anthropologist, Virchow systematically studied the physical characteristics and culture of the German people and offered concrete evidence to deny the myth of Teutonic supremacy. In addition, his medical interests stimulated him to engage in a reform movement that produced modern sanitation, school reforms, and the hospital system currently in use today. This book is recommended to all readers who are interested in learning of the achievements of a man of unusua intellectual powers, personal integrity, and courage.

An Atlas of the Commoner Skin Diseases. By Henry C. G. Semon M.A., D.M., F.R.C.P., Consulting Physician for Diseases of Skin, Roya Northern Hospital, London. Colour photography originally directed by the late Arnold Moritz, B.A., M.B., B.C. Fourth edition. Cloth. $13.50 Pp. 370, with 147 plates reproduced by direct colour photography from living subject. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2; [John Wright & Sons, Ltd., 42-44, Triangle West Bristol 8, England]; 1953.

This atlas is replete with photographs in color and brie descriptions of what may be seen in the illustrations. It is no as complete as some texts because it does not provide details of diagnosis, etiology, and treatment. It does offer, however some remarkably outstanding colored photographs that will be of great help to the practitioner and student, particularly i he does not see some of the conditions very frequently. The descriptions of the disease and treatment are offered in capsule form, but this in no way detracts from the usefulness of the volume. It is a worthwhile addition to any library and should be as useful to the general practitioner, the student, or the pediatrician as to the dermatologist. The book is well bound the paper is of good quality, and the type is pleasing to the eye.

Progress in Neurology and Psychiatry: An Annual Review, Volume VIII. Edited by E. A. Spiegel, M.D., Professor and Head of Department of Experimental Neurology, Temple University School of Medicine, Philadelphia. Cloth. $10. Pp. 591. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, 1953.

Continuing the pattern adopted in previous editions, this annual review of the literature is presented in four parts dealing with basic sciences, neurology, neurosurgery, and psychiatry. The chapter headings are the same as those used in the 1952 edition with the following exceptions: In section 2 the chapter on neurosyphilis has been omitted (neurosyphilis does not even appear in the index), and a chapter on neuro-ophthalmology and another on clinical electromyography have been added; in section 3 the chapter on the vascular system has been replaced by a chapter on the surgical treatment of pain and motor disorders; and in section 4 the chapter on genetics in neurology and psychiatry has been replaced by one on alcoholism. Those who have found the previous volumes useful will want to add this one to their libraries. Nonspecialists will find it a valuable reference work because of its wide scope and extensive bibliography.

Heredity in Health and Mental Disorder: Principles of Psychiatric Genetics in the Light of Comparative Twin Studies. By Franz J. Kallmann, M.D., Principal Research Scientist (Medical Genetics), New York State Psychiatric Institute, New York. With foreword by Nolan D. C. Lewis, M.D. Cloth. $6. Pp. 315, with 89 illustrations. W. W. Norton & Co., Inc., 101 Fifth Ave., New York 3, 1953.

This book succinctly summarizes evidence for the genetic basis of health and mental disorder. It is based on the three lectures of the 19th series of the Thomas W. Salmon Lectures, which Dr. Kallmann, eminent for his research on the inheritance of schizophrenia, was invited to give. The present book brings together the results of Dr. Kallmann's 16 years of research for the New York State Psychiatric Institute, involving not only the genetic basis of schizophrenia but also many other psychiatric diseases. The first part of the book, "Heredity in Relation to Mental Health," is an excellent review of the general principles of genetics and their historical development, though it may be difficult reading for those who have never had a beginning course in genetics. In order to investigate the part played by heredity in disease, Dr. Kallmann has studied thousands of pairs of twins, of both the monozygotic or identical inheritance type and the dizygotic or different inheritance type. Profuse use of pictures of the twins throughout the book enlivens the material. The second part of the book, "Heredity and Mental Disorder," gives evidence for the hereditary basis of psychoneurotic and delinquent behavior, deficient resistance to stress and infection, pathological sex variants, psychotic reaction types of all kinds, convulsive diseases, neurological disorders, and mental deficiency.

In the last section, Dr. Kallmann applies the results of genetic research to mental health planning. Correcting common misconceptions regarding the role of heredity, Dr. Kallmann dispels the fear that, because a hereditary basis for disease is found, one must be pessimistic regarding treatment, by citing hormonal treatment for eunuchoid condition and insulin for diabetes. Nor does the existence of a genetic factor in psychiatric illnesses minimize the psychodynamic significance of unfavorable environmental influences that may have precipitated the illness in genetically predisposed individuals. The constructive use of research in human genetics as differentiated from pseudoeugenic fanaticism is described in marital counseling and other situations.

Fool's Haven. By C. C. Cawley. Cloth. $2.75. Pp. 210. House of Edinboro, Publishers, 21 Edinboro St., Boston, 1953.

This is a short, fast-moving story of a college student and his fiancé, the daughter of a member of a religious sect that believes in faith healing and forbids any reliance on medical care. "One can not have both God and a doctor," the self-ordained pastor of this sect is quoted as saying. The story is probably not lasting prose, but it raises what may be a lasting question, namely, the right of society to interfere with a person's religious beliefs when those beliefs deny to a sick person proper medical attention. The student is amazed when he discovers that his future mother-in-law will not allow her son to be given Pasteur treatments after he was bitten by a rabid dog. He is, of course, irate but powerless to intervene. When his fiancé dies of acute appendicitis without having been offered the advantages of proper medical care and hospitalization, her mother is found guilty of manslaughter. The student's satisfaction over this fact is marred because the mother is paroled without serving even one day in jail and the pastor who urged her to act as she did is acquitted. It is difficult to view the question raised by this little book impartially, and it is quite likely that all who read the book will be angry. The faith healers will be angry because of the disbelief of others, who in turn will be angry because of the blind and unrealistic attitude of the faith healers. Regardless of one's beliefs, however, the question is fairly well presented and should stimulate many an informal discussion on the subject.

Psychosomatic Approach to Gynecology and Obstetrics. By Fritz Wengraf, M.D., Adjunct Neuropsychistrist, Beth Israel Hospital, New York, New York. Publication number 164, American Lecture Series, monograph in Bannerstone Division of American Lectures in Gynecology and Obstetrics. Edited by E. C. Hamblen, B.S., M.D., F.A.C.S., Professor of Endocrinology, Duke University School of Medicine, Durham, N. C. Cloth. $6.75. Pp. 346. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

This book, written by a neuropsychiatrist, was designed to supplement texts on gynecology and obstetrics and to further the interest of obstetricians and gynecologists in a psychiatric approach to their work. Since the author does not use the highly technical terminology of psychoanalysis, physicians who are not specialists in psychiatry and psychoanalysis will find it easy to read. The book is divided into six sections on (1) functional disorders; (2) constipation; (3) minor gynecology, covering puberty, dysmenorrhea, psychosomatic uterine bleeding, functional amenorrhea, psychogenic leukorrhea, frigidity, and the menopause; (4) operative gynecology, including preoperative care of neurotic patients, postoperative neurosis, and anesthesia; (5) obstetrics, including gestation, parturition, confinement, lactation, and abortion; and (6) psychotherapeutics, treating the gynecologist's significance to woman's unconscious and methods of psychotherapy.

There are 50 illustrative case reports distributed throughout the book. At the end is an extensive bibliography of 516 references, and all the authors of these references are quoted at least once in the text. This book is well written, and the publishers, too, have done their part well. Obstetricians and gynecologists will find a considerable amount of instructive and interesting material in this book.

Health Principles and Practice. By C. V. Langton, B.S., M.S., Dr.P.H., Director of Physical Education, Oregon State College, Corvallis, and C. L. Anderson, B.S., M.S., Dr. P. H., Professor of Hygiene and Health Education, Oregon State College. Cloth. $4.25. Pp. 417, with 47 illustrations. C. V. Mosby Co., 3207 Washington Blvd., St. Louis 3, 1953.

This is a college textbook for courses in health or hygiene. It has been designed by the authors to provide those who will be community leaders with "an appreciation and basic understanding of hygiene both from the standpoint of its contribution to personal health as well as the effect this knowledge may have if applied properly to the community in which they live." It presupposes an elementary understanding of body structure, function, and other aspects of human biology and deals directly with personal and community health interests in concepts and vocabulary on a college level. Excellent chapters give accepted views on heredity and eugenics, nutrition, exercise, fatigue, rest, air and sunlight, poisons, and personal care. The chapter on mental health includes a discussion of the development of a well-adjusted personality and suggestions for promoting mental health as well as the usual description of classical disorders. Sex and reproduction are covered in franker detail than is customary in a book of this type. A general view of community health is covered by chapters on international and national health services, state and local health services, and communicable disease control, and by a statistical discussion of changing concepts and approaches in the field of health.

In general this is a sound supplement to a college course on personal and community health. Items may need clarification or expansion by the instructor, and there will be differences of opinion on the administration of certain health programs. Nevertheless this book shows evidence of being written by an educator well versed in the subject of health.

Stedman's Medical Dictionary of Words Used in Medicine and Their Derivations and Pronunciation Including Dental, Veterinary, Chemical, Botanical, Electrical, Life Insurance and Other Special Terms; Anatomical Tables of Titles in General Use, the Terms Sanctioned by the Basle Anatomical Convention; the New British Anatomical Nomenclature; Pharmaceutical Preparations Official in the U. S. and British Pharmacopœias or Contained in the National Formulary; Biographical Sketches of the Principal Figures in the History of Medicine. Edited by Norman Burke Taylor, V.D., M.D., F.R.S.C., in collaboration with Lieut. Col. Allen Ellsworth Taylor, D.S.O., M.A. Eighteenth edition with etymologic and orthographic rules. Cloth. $11.50. Pp. 1561, with illustrations. Williams & Wilkins Co., Mt. Royal and Guilford Aves., Baltimore 2, 1953.

Reflecting the growth of medical knowledge, this 18th edition of "Stedman's Medical Directory" has 200 more pages than the 17th edition issued in 1949. Several thousand words and nearly 600 new illustrations have been added. The useful appendixes indicated by the subtitle have been continued, and others have been added, such as tables of pathogenic organisms, of weights and measures, and of standard weights according to height and age. The finished product, however, portrays the unresolved conflict between current usage, editorial preferences, and a sheer inertia that retains many terms long past their usefulness. Current usage is satisfied by inclusion of such compounds as "isonicotinic acid hydrazide," "2,3-dimercaptopropanol" (Dimercaprol), and para-aminosalicylic acid," as well as "adrenocorticotrophic hormone" (ACTH) and "17-hydroxy-11-dehydrocorticosterone" (cortisone). The editors' preference is expressed not only in the preface where they discuss "etymological miscegenation" but in their permitting such remarks as this under "sulfapyradine": "It is called dagenan and unfortunately M and B 693." Surely only inertia can be responsible for the continued inclusion of such terms as these: nephrauxe, nephremia, nephria, nephrism, nephrocapsectomy, nephroerysipelas, nephroptosia, and nephroscleria. Acid is given one column with its subheads, and, for some unexplained reason, acidum is given nearly four.

Unexplained, too, is the cross from sulfoxone sodium (the generic name) to Diasone (the proprietary); the widely variant definitions of acid, ascorbic, and ascorbic acid and of acid, chondroitic, and chondroitic acid; the use of neither cross reference nor definition under Ballance operation for the Koerte-Ballance operation; and putting sigma reaction under "S" but not under "Reaction." Most of the anatomical terms previously given in Latin have been translated into their English equivalents, but many other nouns keep their Latin endings. Thus "sulfanilamide" is used in the definition of "sulfa drugs" but under sulfanilamide itself there is only the cross reference "See Sulfanilamidum (U. S.)." Proofreading errors sometimes occur, as in the 11-line definition of Schwann's sheath, which contains three glaring misspellings, and in the filing of a well-known phenomenon under Schwartzmann instead of Shwartzman as used in the "A. M. A. Directory" and "Who's Who." Destructive criticism, however, is always easy and is necessarily somewhat unjust in appraisal of a monumental work of this sort. Amassing and organizing the medical vocabulary within a scholarly framework such as this is an achievement of no mean order, and one of value to anyone needing such a dictionary.

Zwang und Freiheit in der Erziehung: Erziehen, Strafen, Reifenlassen. Von Prof Dr. Med. Heinrich Meng. Dozent für Psychohygiene an der Universität Basel. Zweite Reihe, Band I, "Bücher des Werdenden," begründet von Paul Federn und Heinrich Meng; herausgegeben von Heinrich Meng. Second edition. Cloth. 24.80 Swiss francs. Pp. 227. Hans Huber, Marktgasse 9, Bern 16 [Sole distributors for U. S. A. and Canada, Grune & Stratton, Inc., Publishers, 381 Fourth Ave., New York 16], 1953.

The author presents a comprehensive discussion of the question to what extent coercion and punishment are needed to supplement instruction and example in the rearing of youth. The opening chapters on the history of penology and pedagogy reveal the frightening significance of this problem today; it must be solved if the threat of human self-extermination is to be averted. The excellent closing section of 82 pages is a compact collection of quotations from both classic and recent source material. It is followed by author and subject indexes. This thoughtful, humane book deserves to be translated into English.

Copying and Duplicating Medical Subjects and Radiographs. By H. L Gibson, Technical Editor, Eastman Kodak Company, Rochester, N York. Publication number 136, American Lecture Series, monograph American Lectures in Medical Photography. Edited by Ralph P. Cr F.R.P.S., F.B.P.A., Secretary, Committee on Medical Motion Pictu American Medical Association. Cloth. $5. Pp. 75, with illustrati Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfi Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxf England; Ryerson Press, 299 Queen St., W., Toronto, 2B, 1953.

Beginning with a brief outline of the basic techniques volved in photographic copying and duplicating, Gibson t proceeds to cover, in a well-organized manner, the spec techniques of copying black and white as well as colo originals, duplicating colored transparencies in black white, duplicating negatives and lantern slides, and re ducing radiographs. In each instance the types of equip needed, including camera, lighting, and film, are conside The material is presented so that it will be of value to relative beginner in medical photography and will also s as a review for the more advanced worker. The chapter copying black and white and colored originals and material on duplicating radiographs are especially well sented and will be helpful to the physician who is intere in clinical photography. The book is well documented, many illustrations of superior quality.

Rehabilitation of the Physically Handicapped. By Henry H. Ke Second edition. Cloth. $4. Pp. 275. Columbia University Press, Broadway, New York 27; Oxford University Press, Amen House, War Sq., London, E.C.4, 1953.

This book is a revision of the original text by Dr. Kes who has had over 30 years' experience in rehabilitating physically handicapped. The first part of the book consi the problems of the crippled child, the injured worker, disabled veteran, the chronically disabled. The second po deals with the basic principles of rehabilitation in term physical restoration, rehabilitation centers, vocational guid vocational training, and job placement. The third se deals with rehabilitation problems encountered in the men and emotionally disabled, the orthopedic patient, the patient, and medical and surgical invalids. A final sectio the book contains an interesting discussion of legislation administration in relation to a national program of reh tation. The text provides very interesting reading, tellin general without great detail regarding specific techniques procedures have been effective in accomplishing the reh tation of the handicapped. It is further enhanced by the pr tation of numerous case reports. This book will be of ticular interest to all those working in the broad fiel rehabilitation and to the handicapped themselves.

Operative Surgery, Volumes I and II. By Guy W. Horsley, B.S., F.A.C.S., Associate Professor of Surgery, Medical College of Vi Richmond, and Isaac A. Bigger, M.D., F.A.C.S., Professor of Su Medical College of Virginia. Sixth edition. Cloth. $30 per set 714; 715-1579, with 1274 illustrations by Helen Lorraine. C. V. Mosb 3207 Washington Blvd., St. Louis 3, 1953.

The first edition of this book was published in 1921 the fifth in 1940. The senior author, Dr. J. Shelton Ho died shortly after World War II ended, and it was decid cease publication of this distinguished text for a time. a happy circumstance that this decision was reversed. present work is dedicated to the author of the original and represents the combined efforts of 20 members o faculty of the Medical College of Virginia. It is, in re a new text, for the older work has been complete written and brought up-to-date. There are 45 chapte volume 1 and 42 in volume 2. Most of the sections are written and adequately illustrated. The text is easy to re

Drs. Horsley and Bigger have stated frankly in the pr their concept of the general surgeon: "The authors b that there is danger in too high a degree of specializ and also believe it is necessary that surgeons be br trained, even though they may later restrict their wor certain areas or systems within the body." When Dr. Ho published the first edition, he called attention to the impor of considering the physiological problems of the sur patient. In some sections in this new edition, the physiological approach to the surgical problems described is not discussed as adequately as it could have been. An example of this is found in the chapter on the liver, gallbladder, and bile tract. The bibliographies found at the end of each chapter often are not as complete or as discriminating as they should be. In spite of these criticisms, however, there is still to be found in these two volumes a wealth of material clearly presented and easily read. They will be helpful for reviewing specific techniques in a broad field of operative surgery.

Clinical Tropical Diseases. By A. R. D. Adams and B. G. Maegraith. Cloth. $10.50; £2. Pp. 508, with 65 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

This book was written to "supply essential facts as dogmatically and concisely" as possible. In an attempt to achieve the first objective, all references to original sources have been eliminated. To serve the second objective, details commonly found in textbooks of parasitology and bacteriology have been reduced to a minimum, since the principal aim was to provide useful clinical information on diseases occurring commonly in the tropics. The first innovation that meets the eye is the order of presentation, namely, by alphabetic arrangement of subjects, beginning with "ainhum" and ending with "yellow fever." In most cases it is easy to follow the sequence by referring to the table of contents or to the subject headings at the top of each right-hand page. It is difficult, however, to understand why dermatomycoses and scabies are associated, even from a strictly clinical viewpoint, and why nutritional disorders are considered in one chapter and the sprue syndrome separately nearly 100 pages later.

As the reader might expect from the distinguished authors of this volume, the facts are, for the most part, authoritatively and clearly presented. In some instances, however, information concerning the geographical distribution of a disease is inaccurate and misleading, as, for example, the statement that vesical schistosomiasis is "established . . . in Asia Minor," without including foci of high endemicity of this disease in Arabia, Iraq, northern Syria, and Iran (page 317). Possibly the designation "Asia Minor" has a different connotation among British and American geographers. Similarly, Manson's schistosomiasis is incorrectly stated to be indigenous to Central America, but there is no mention of its endemicity in several parts of the West Indies (page 323). Moreover, there is no evidence that dracontiasis exists today in the Caribbean Islands and northern South America (page 73). The most valuable topic in each chapter is the description of the disease as a clinical entity. However, since laboratory methods must usually be employed to confirm the presumptive diagnosis and since clinical laboratory procedures are frequently not sufficiently detailed in the present volume, the reader would need to consult texts on parasitology, bacteriology, and hematology for essential techniques and evaluation of the findings. Advice on treatment generally is sound and timely. In diseases such as amebiasis and malaria, a preference is expressed for drugs that are readily available in British Commonwealth countries, not necessarily those employed currently by American physicians. It is astonishing to find that acetarsol (acetarsone N.F.), which is poorly tolerated, is recommended in combined antiamebic therapy instead of other arsonic acid derivatives (page 13); that mepacrine methanesulfonate B. P. (quinacrine hydrochloride U.S.P.) is listed in preference to chloroquine in the treatment of malaria (page 221); and that pamaquine naphthoate rather than primaquine is advised for use in combination with quinine or chlorguanide hydrochloride for relapsing vivax infections (page 222).

A number of the cosmopolitan diseases are treated extensively, including bacilliary dysentery, brucellosis, rabies, smallpox, and typhoid, since all of these are today more important in tropical than in temperate climates. Yet no mention is made of tuberculosis, which is one of the really serious diseases of native populations in the tropics, or of poliomyelitis, which is becoming established in Central Africa and other warm areas. The authors may have had justifiable excuse for these omissions, but no explanation has been offered. The appropriateness of the title "Clinical Tropical Diseases" could be questioned. Should it not have been "Diseases of Warm Climates" or "Clinical Aspects of Diseases in the Tropics"? In conformity with the purpose of the volume the latter would seem to be more descriptive of the contents. Several typographic errors have been noted, mostly of a technical nature. Among these is "pruritus," which is consistently misspelled "pruritis."

The textual material of some chapters is supplemented with well-selected clinical photographs and charts, a few good photomicrographs and half-tone illustrations, and a few relatively poor line drawings of the diagnostic stages of etiological agents. There is a fairly extensive subject index, which, however, fails to include many of the common names of the diseases considered and several of the drugs recommended. There is no bibliography. Since no sources are mentioned in the text, no author index is provided. The volume is pleasingly printed and is bound in insect-proof cloth. Many of the shortcomings of this text are common to first editions, and the more obvious ones undoubtedly will be corrected in a second edition. For the most part they are outweighed by the valuable clinical information that has been provided. By and large the authors have achieved their purpose. This book should prove to be a useful and ready reference to students and practitioners of medicine in warm climates.

New and Nonofficial Remedies: Containing Descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1953. Issued under direction and supervision of Council on Pharmacy and Chemistry, American Medical Association. Cloth. $2.65. Pp. 623. J. B. Lippincott Company, 227-231 S. Sixth St., Philadelphia 5; Aldine House, 10-13 Bedford St., London, W.C.2; 2083 Guy St., Montreal, 1953.

The present edition of "New and Nonofficial Remedies" strikes one immediately as being smaller than preceding volumes. This is due mainly to the fact that the section on tests and standards for accepted nonofficial preparations is now published in a separate volume. Since interest in the book was felt to be largely either medical or pharmaceutical, the new arrangement should be more appealing to most users of the book. Examination of the 23 chapters into which descriptions of accepted preparations are divided reveals no remarkable or extensive revisions except for the addition of some 35 new monographs and the replacement of the monograph "Synthetic Oleovitamin D" (because of the omission of viosterol in oil) by appropriate expansion of the monograph on calciferol-U.S.P. Viosterol in oil was omitted under the Council's policy for exemption of articles that have been retained in the U.S.P., N.F., or N.N.R. for at least 20 years. Exempted preparations are listed in the index with reference to the last edition in which they appeared; some 25 such references to the 1952 volume appear in the present index.

Several of the new monographs, which detail the definition, actions, uses, and dosages of newly accepted agents, are worthy of special mention, together with the corresponding brands accepted prior to Jan. 1, 1953: carbacrylamine resins (Carbo-Resin—Lilly), a mixture of carbacrylic resin, potassium carbacrylic resin, and polyamine-methylene resin for oral use as an adjunct to increase the fecal excretion of sodium in the treatment of edema; chlorotrianisene (TACE—Merrell), a nonsteroid estrogen; hexamethonium chloride (Methium chloride—Warner-Chilcott), a ganglionic blocking agent for use as a hypotensive agent; alkavervir (Veriloid—Riker), an extract of Veratrum viride for the same purpose; methantheline bromide (Banthine bromide—Searle), a parasympatholytic agent having anticholinergic as well as ganglionic blocking action; probenecid (Benemid—Sharp & Dohme), used as a urate eliminant in gout and as an adjunct in intensive penicillin or *p*-aminosalicylic acid therapy to increase blood levels of these anti-infectives; polymyxin B sulfate (Aerosporin sulfate—Burroughs Wellcome), a new antibiotic for intramuscular, intrathecal, or topical administration; streptokinase-streptodornase (Varidase—Lederle), a mixture of proteolytic enzymes derived from a strain of Streptococcus hemolyticus; and isoniazid (Nydrazid—Squibb, Pyrizidin—Nepera, Tyvid—Merrell), an isonicotinic acid derivative highly active against tuberculosis. The editing, indexing, printing, and binding of this book are up to the publisher's usual standard of excellence.

QUERIES AND MINOR NOTES

DISPLACED INTERVERTEBRAL DISK

To the Editor:—*The roentgenograms of one of my patients showed a narrowing of the space between the third and fourth lumbar vertebrae with osteoarthritis of the lumbar spine. A later myelogram indicated a displaced disk between these vertebrae. The patient complains of pain, especially in the right leg, thigh, and lower back, and obtains relief only by lying in bed. Sitting or standing causes the pain to return. He also has severe pain when sneezing or coughing. Would surgical removal of this disk benefit my patient, and might there be some crippling after-effects? Should the treatment be undertaken by a neurosurgeon or an orthopedist?*

John H. Brothers, M.D., Providence, R. I.

Answer.—Protruded intervertebral disks are managed differently in different sections of the country. In some sections the operation on the disk is performed by a neurosurgeon and in other sections by an orthopedist. In some places patients with protruded disks are seen by both an orthopedist and a neurosurgeon, and, working together, they decide on the treatment. If treatment is simply the removal of a protruded disk, a neurosurgeon performs it, but if, in addition, it is believed that a spinal fusion should be performed, this is done by the orthopedist. The decision whether to perform a fusion is difficult and usually depends on the presence of static pain in the back if the patient is relatively young and whether immobilization of a portion of the spinal column is considered necessary for relief.

Statistics vary as to the results obtained from operations on disks, and in a large series of cases satisfactory results were reported in about 61% following removal of the disk alone. A slightly better result was obtained in the patients in whom spinal fusion was also performed. In this patient the displaced disk is between the third and fourth lumbar vertebrae, but if the osteoarthritic changes occur throughout the entire lumbar portion of the spinal column, it would be questionable whether fusion would be advisable. If the arthritic changes were localized to the one joint only, fusion might be beneficial. The decision to perform spinal fusion would depend on the age of the patient. If the nerve roots are not already damaged, crippling after-effects usually do not result from a disk operation.

AMOUNT OF ALCOHOL THAT CAN BE TOLERATED

To the Editor:—*How many ounces of whisky (86 proof) can a normal healthy adult consume as a daily ration? How many ounces of beer can be taken as a daily ration? How many ounces of wine can be taken as a daily ration without impairing health? Does mixing these alcoholic beverages have any adverse effect?*

M.D., New York.

Answer.—For the questions about the amount of alcohol that can be tolerated to be answered, it must be understood that the effect of alcohol depends largely on one factor, namely, the amount of alcohol that accumulates in the blood. The amount accumulated depends on the amount ingested, the size of the person, the concentration of alcohol in the beverage, the presence of food in the stomach, the rate of oxidation and elimination of the alcohol, and, particularly, on the rate of drinking. The average person can oxidize and eliminate about 6 to 10 cc. of pure alcohol per hour, so that he could consume about a pint (500 cc.) of 100 proof whisky in 24 hours without ever being intoxicated if he spaced his drinks properly. This experiment would, of course, have academic value only, since the consumption of alcohol below the rate of accumulation involves no satisfaction to the drinker. On the other hand, a single drink consumed rapidly on an empty stomach may produce measurable symptoms of intoxication. The relative intoxicating effects of whisky, beer, and wine depend chiefly on the amount of alcohol consumed but also on the dilution, so that the same amount of alcohol taken in various drinks will have the least effect when taken as beer and the greatest effect when taken as straight whisky. A convenient guide for comparison of the amount of alcohol in beverages is that 1 oz. (30 cc.) of 100 proof whisky contains about as much alcohol as 3 oz. (90 cc.) of wine (17% by volume) or 12 oz. (360 cc.) of beer (4% by volume, 3.2% by weight). The general health of a person is probably not affected by the use of alcohol as long as the alcohol is not used as a substitute for food and vitamins. Aside from the irritating action of strong alcohol on the gastric mucosa, other tissues such as the circulatory system, kidneys, and liver are probably not permanently affected by the small concentration of alcohol that can accumulate in the body. This concentration in body fluids reaches only about 0.7% in cases of death due to alcohol. The possibility of addiction to alcohol must always be considered, however, and the physician who advises patients to use beverage alcohol may be criticized if addiction occurs. The greatest danger from the use of these beverages concerns the relationship of drinking to activities. For example, the after-dinner drinks may be perfectly harmless if no important activities are undertaken at such times, whereas the drink taken before driving a car, running machinery, or performing any task that demands accurate decisions or mental acuity might be dangerous. The drinker should observe the following rule: For every two drinks he should wait three hours before undertaking important activities. Contrary to popular opinion, the mixing of alcoholic drinks does not increase the intoxicating effects of alcohol, since these symptoms depend on the actual amount of alcohol consumed and the other factors mentioned. However, this old wives' tale concerning the mixing of beverages may be of value, since promiscuous sampling may lead to greater consumption of alcohol, just as a great variety of foods may lead to overeating

CEMENT AND RADIANT-HEATED FLOORS

To the Editor:—*Is a cement floor on the ground without basement underneath conducive to rheumatoid conditions Does a floor with radiant heat cause excessive sweatin of the feet?*

M.D., Lake Mills, Wis.

Answer.—The causes of rheumatoid conditions are bacterial, endocrine, neurogenic, and possibly emotional. Dampness and cold involving high humidity will not, per se, produc such conditions. The question then becomes whether a col damp climate will unfavorably influence a rheumatoid stat Many persons with joint or bone conditions predict, althoug oftentimes erroneously, the coming of inclement weather, an many such persons fare better living in climates such as that c Arizona or Florida. The reason for this is partly the subjectiv and emotional state brought on by the mental depressio accompanying inclement weather. However, in part the condition results from impaired heat regulation, defective ski elimination, and distorted metabolism. While a dark, damp cold basement apartment is undesirable for all human being the same condition could be brought about on the 10th floo The only reason that a bare cement floor attracts attentio is the chilling and discomfort that derives from the rapid los of heat from contact with the cement floor. A steel floo would be much worse, and correspondingly a wooden floo would be better than either. A specific answer to this comple question is "yes."

The situation with regard to radiant floor heating is muc different. The floor area emitting heat is so large that unde proper conditions the floor temperature is only slightly highe

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The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically so stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

than the room temperature. The inhabitant of such a heated space ordinarily is not aware of the heat source in the floor except possibly in the local areas where the warmer air or water first enters the floor space prior to dispersion. Unless there is overheating, the temperature of the soles of the feet always is higher than that of the surface of the floor, so that the thermal exchange would favor the floor and not the feet. This would result in foot cooling rather than foot overheating, and would not cause unusual sweating of the feet.

POLYCYTHEMIA VERA

To the Editor:—*A patient has polycythemia vera. A normal hemogram follows administration of radioactive phosphorus (P^{32}), but the patient still has severe paresthesias. I would like to know the cause and the treatment; whether such a patient should avoid high altitudes; how early in this disease marrow changes take place; and whether cardiac arrhythmias occur early and if of any prognostic significance?*

M.D., Illinois.

Answer.—In polycythemia vera, paresthesias may be due to dilatation of the vessels of the skin, which persists to some extent even when the blood cell count is normal. There is no satisfactory treatment for this condition. In some patients the condition is aggravated by a hot bath and in others cold weather has an adverse effect. Such persons should, of course, attempt to protect themselves from the temperature that makes them uncomfortable. Small doses of irradiation given locally sometimes may be of benefit.

Regarding high altitudes, patients with polycythemia tend to bleed easily from mucous membranes, but if the blood cell count is normal as described above, the patient would probably not suffer from a change of altitude. If he is going to a very high place for a long time, some erythrocytosis due to high altitude might be superimposed on the recurring polycythemia vera. If one can diagnose the disease clinically and by peripheral blood studies, then marrow changes such as increase in cellularity, including all the elements, especially the megakaryocytes, probably have already occurred. Cardiac arrhythmias are not more frequent in polycythemia vera patients than in other persons of the same age group.

LEUKEMIA

To the Editor:—*A 24-year-old man has chronic myelocytic leukemia that was diagnosed two years ago. His only treatment to date has been a course of x-ray irradiation to his spleen of 400 r three months ago. His spleen shrank markedly but has since enlarged greatly again. He has been admitted to a hospital because of fever of about 10 days' duration, with daily elevations of 103 to 105 F. No cause has been found for this aside from leukemia. His spleen extends several inches below the umbilicus and several inches to the right of the midline. He also has anorexia, weight loss, fullness before his meals are finished, nausea, and vomiting. No lymph nodes are enlarged. His hemoglobin level, which was 6.6 gm. per 100 cc., has been brought up to 10 gm. by transfusions. On admission his white blood cell count was 60,000. Several days later it was 30,000, and about a week later it was down to 15,000. The differential count shows 45 neutrophils, 9 lymphocytes, 20 band forms, 6 myelocytes, 10 juvenile forms, 10 premyelocytes, and 0 myeloblasts. The platelet count is 60,000. No hemorrhage has been noted. What is the best plan of therapy?*

M.D., Pennsylvania.

Answer.—The occurrence of fever with daily elevations to 103 and 105 F in a patient with chronic myelocytic leukemia compels the assumption of either a conversion to acute leukemia or the presence of a serious complicating disease. The dropping white blood cell count, the low platelet count, and the large numbers of premyelocytes suggests that this is a conversion to acute leukemia. This can best be established by the examination of the patient's marrow, which may show changes not yet recognizable in the peripheral blood. The possibility of a complicating infection, especially miliary tuberculosis, must, however, be considered, since tuberculosis occurs frequently as a complication of leukemia and could account for the rapid enlargement of the spleen, the "hypersplenism" (pancytopenia), and the fever. The weight loss, anorexia, and other gastrointestinal symptoms may well have a mechanical basis secondary to pressure of the spleen on the stomach. Before therapeutic recommendations can be made, a precise diagnosis will have to be established. X-ray examination of the chest and examination of the marrow and sputum should help. If miliary tuberculosis is present, therapy should be directed towards its control. On the other hand, if this represents a conversion of chronic leukemia into acute leukemia, only transfusions of blood and antibiotics will be indicated. The recently introduced 6-mercaptopurine offers some possibility of lessening the severity of the exacerbation.

HERPES ZOSTER

To the Editor:—*A woman, aged 75, has been suffering from herpes zoster for seven weeks. I have used 16 ampuls of Protamide (a colloidal solution of a proteolytic enzyme), large injections of vitamin B_1, x-ray therapy, crystalline vitamin B_{12} (Be-Dodec), and finally a cobra venom derivative (Cobroxin). The lesions were covered with diphenhydramine in a calamine base (Caladryl). Nothing has relieved the pain to any extent. She was seen by an excellent neurologist, who suggested that I try the cobra venom derivative and who did not feel that surgical procedures would be very helpful.*

Ernest W. Dales, M.D., Grand Rapids, Mich.

Answer:—There is no specific therapy for herpes zoster, and the measures employed are merely symptomatic. Although most patients recover without any residual symptoms, postherpetic neuralgia may persist for months or even years. In this case, the use of snake venom as suggested by the neurologist is infrequently of value. Analgesics are usually unsuccessful. In some instances, a nerve block with procaine or one of its derivatives may bring relief to the hyperesthetic area. In the occasional case, deep x-ray therapy may also afford some relief. Surgical procedures such as sectioning of the sensory root of the ganglion or of the affected posterior roots (in cases of spinal cord involvement) are also effective in some instances. Within the past year, the use of cortisone or corticotropin (ACTH) (and the preference seems to be for the latter) has also been of value in certain instances. In view of this patient's age, these drugs should be administered with extreme caution and with close supervision, with particular reference to side-effects. The antibiotics are occasionally of value in the acute stage but would be ineffectual in this case.

BURN OF HAND

To the Editor:—*On Sept. 18, 1951, a patient was using an acetylene blowtorch to cut a piece of iron. The "slag" dropped into the palm of the right hand, causing a burn that will not completely heal. There is a group of vesicles the size of a dollar, some of which contain pus. Cultures of the contents of vesicles have been negative for fungi. The patient has had 8 or 10 x-ray treatments, with no appreciable result. I have been treating this man's hand with a desquamating ointment of 20% salicylic acid and nitrofurfuryl methyl ether (Furaspor) cream used alternately at bedtime, since May 18, 1953. Have you any advice on this subject?*

M.D., Washington.

Answer.—A burn due to the events described should eventuate in healing of the lesion within a few weeks or, at most, a few months. If the lesion has failed to heal after two years, a more thorough investigation is in order. The contents of the vesicles should be rechecked in the laboratory for bacteria and fungi. Furthermore, a biopsy specimen should be examined to rule out the possibility of malignancy. During this period, therapy should consist solely of application of a bland emollient such as ordinary petrolatum, in conjunction with a mil astringent wet dressing (such as aluminum acetate [Bur

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To the Editor:—*How many ounces of whisky (86 proof) can a normal healthy adult consume as a daily ration? How many ounces of beer can be taken as a daily ration? How many ounces of wine can be taken as a daily ration without impairing health? Does mixing these alcoholic beverages have any adverse effect?*

M.D., New York.

Answer.—For the questions about the amount of alcohol that can be tolerated to be answered, it must be understood that the effect of alcohol depends largely on one factor, namely, the amount of alcohol that accumulates in the blood. The amount accumulated depends on the amount ingested, the size of the person, the concentration of alcohol in the beverage, the presence of food in the stomach, the rate of oxidation and elimination of the alcohol, and, particularly, on the rate of drinking. The average person can oxidize and eliminate about 6 to 10 cc. of pure alcohol per hour, so that he could consume about a pint (500 cc.) of 100 proof whisky in 24 hours without ever being intoxicated if he spaced his drinks properly. This experiment would, of course, have academic value only, since the consumption of alcohol below the rate of accumulation involves no satisfaction to the drinker. the other hand, a single drink consumed rapidly on an en stomach may produce measurable symptoms of intoxicat The relative intoxicating effects of whisky, beer, and depend chiefly on the amount of alcohol consumed but on the dilution, so that the same amount of alcohol t in various drinks will have the least effect when taken beer and the greatest effect when taken as straight whi A convenient guide for comparison of the amount of alc in beverages is that 1 oz. (30 cc.) of 100 proof whisky tains about as much alcohol as 3 oz. (90 cc.) of wine (1 by volume) or 12 oz. (360 cc.) of beer (4% by volume, 3. by weight). The general health of a person is probably affected by the use of alcohol as long as the alcohol is used as a substitute for food and vitamins. Aside from irritating action of strong alcohol on the gastric mucosa, o tissues such as the circulatory system, kidneys, and liver probably not permanently affected by the small concentra of alcohol that can accumulate in the body. This concen tion in body fluids reaches only about 0.7% in cases of de due to alcohol. The possibility of addiction to alcohol m always be considered, however, and the physician who advi patients to use beverage alcohol may be criticized if addict occurs. The greatest danger from the use of these bevera concerns the relationship of drinking to activities. For ample, the after-dinner drinks may be perfectly harmless no important activities are undertaken at such times, wher the drink taken before driving a car, running machinery, performing any task that demands accurate decisions or men acuity might be dangerous. The drinker should observe following rule: For every two drinks he should wait th hours before undertaking important activities. Contrary popular opinion, the mixing of alcoholic drinks does not crease the intoxicating effects of alcohol, since these sympto depend on the actual amount of alcohol consumed and other factors mentioned. However, this old wives' tale c cerning the mixing of beverages may be of value, since p miscuous sampling may lead to greater consumption of al hol, just as a great variety of foods may lead to overeati

CEMENT AND RADIANT-HEATED FLOORS

To the Editor:—*Is a cement floor on the ground withou basement underneath conducive to rheumatoid conditio Does a floor with radiant heat cause excessive sweati of the feet?*

M.D., Lake Mills, Wis.

Answer.—The causes of rheumatoid conditions are b terial, endocrine, neurogenic, and possibly emotional. Dam ness and cold involving high humidity will not, per se, produ such conditions. The question then becomes whether a co damp climate will unfavorably influence a rheumatoid sta Many persons with joint or bone conditions predict, althou oftentimes erroneously, the coming of inclement weather, a many such persons fare better living in climates such as that Arizona or Florida. The reason for this is partly the subjecti and emotional state brought on by the mental depressi accompanying inclement weather. However, in part the co dition results from impaired heat regulation, defective sk elimination, and distorted metabolism. While a dark, dam cold basement apartment is undesirable for all human being the same condition could be brought about on the 10th floo The only reason that a bare cement floor attracts attentio is the chilling and discomfort that derives from the rapid los of heat from contact with the cement floor. A steel floo would be much worse, and correspondingly a wooden floo would be better than either. A specific answer to this comple question is "yes."

The situation with regard to radiant floor heating is much different. The floor area emitting heat is so large that under proper conditions the floor temperature is only slightly highe

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The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically so stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

than the room temperature. The inhabitant of such a heated space ordinarily is not aware of the heat source in the floor except possibly in the local areas where the warmer air or water first enters the floor space prior to dispersion. Unless there is overheating, the temperature of the soles of the feet always is higher than that of the surface of the floor, so that the thermal exchange would favor the floor and not the feet. This would result in foot cooling rather than foot overheating, and would not cause unusual sweating of the feet.

POLYCYTHEMIA VERA

To the Editor:—*A patient has polycythemia vera. A normal hemogram follows administration of radioactive phosphorus (P^{32}), but the patient still has severe paresthesias. I would like to know the cause and the treatment; whether such a patient should avoid high altitudes; how early in this disease marrow changes take place; and whether cardiac arrhythmias occur early and if of any prognostic significance?*

M.D., Illinois.

Answer.—In polycythemia vera, paresthesias may be due to dilatation of the vessels of the skin, which persists to some extent even when the blood cell count is normal. There is no satisfactory treatment for this condition. In some patients the condition is aggravated by a hot bath and in others cold weather has an adverse effect. Such persons should, of course, attempt to protect themselves from the temperature that makes them uncomfortable. Small doses of irradiation given locally sometimes may be of benefit.

Regarding high altitudes, patients with polycythemia tend to bleed easily from mucous membranes, but if the blood cell count is normal as described above, the patient would probably not suffer from a change of altitude. If he is going to a very high place for a long time, some erythrocytosis due to high altitude might be superimposed on the recurring polycythemia vera. If one can diagnose the disease clinically and by peripheral blood studies, then marrow changes such as increase in cellularity, including all the elements, especially the megakaryocytes, probably have already occurred. Cardiac arrhythmias are not more frequent in polycythemia vera patients than in other persons of the same age group.

LEUKEMIA

To the Editor:—*A 24-year-old man has chronic myelocytic leukemia that was diagnosed two years ago. His only treatment to date has been a course of x-ray irradiation to his spleen of 400 r three months ago. His spleen shrank markedly but has since enlarged greatly again. He has been admitted to a hospital because of fever of about 10 days' duration, with daily elevations of 103 to 105 F. No cause has been found for this aside from leukemia. His spleen extends several inches below the umbilicus and several inches to the right of the midline. He also has anorexia, weight loss, fullness before his meals are finished, nausea, and vomiting. No lymph nodes are enlarged. His hemoglobin level, which was 6.6 gm. per 100 cc., has been brought up to 10 gm. by transfusions. On admission his white blood cell count was 60,000. Several days later it was 30,000, and about a week later it was down to 15,000. The differential count shows 45 neutrophils, 9 lymphocytes, 20 band forms, 6 myelocytes, 10 juvenile forms, 10 premyelocytes, and 0 myeloblasts. The platelet count is 60,000. No hemorrhage has been noted. What is the best plan of therapy?*

M.D., Pennsylvania.

Answer.—The occurrence of fever with daily elevations to 103 and 105 F in a patient with chronic myelocytic leukemia compels the assumption of either a conversion to acute leukemia or the presence of a serious complicating disease. The dropping white blood cell count, the low platelet count, and the large numbers of premyelocytes suggests that this is a conversion to acute leukemia. This can best be established by the examination of the patient's marrow, which may show changes not yet recognizable in the peripheral blood. The possibility of a complicating infection, especially miliary tuberculosis, must, however, be considered, since tuberculosis occurs frequently as a complication of leukemia and could account for the rapid enlargement of the spleen, the "hypersplenism" (pancytopenia), and the fever. The weight loss, anorexia, and other gastrointestinal symptoms may well have a mechanical basis secondary to pressure of the spleen on the stomach. Before therapeutic recommendations can be made, a precise diagnosis will have to be established. X-ray examination of the chest and examination of the marrow and sputum should help. If miliary tuberculosis is present, therapy should be directed towards its control. On the other hand, if this represents a conversion of chronic leukemia into acute leukemia, only transfusions of blood and antibiotics will be indicated. The recently introduced 6-mercaptopurine offers some possibility of lessening the severity of the exacerbation.

HERPES ZOSTER

To the Editor:—*A woman, aged 75, has been suffering from herpes zoster for seven weeks. I have used 16 ampuls of Protamide (a colloidal solution of a proteolytic enzyme), large injections of vitamin B_1, x-ray therapy, crystalline vitamin B_{12} (Be-Dodec), and finally a cobra venom derivative (Cobroxin). The lesions were covered with diphenhydramine in a calamine base (Caladryl). Nothing has relieved the pain to any extent. She was seen by an excellent neurologist, who suggested that I try the cobra venom derivative and who did not feel that surgical procedures would be very helpful.*

Ernest W. Dales, M.D., Grand Rapids, Mich.

Answer:—There is no specific therapy for herpes zoster, and the measures employed are merely symptomatic. Although most patients recover without any residual symptoms, postherpetic neuralgia may persist for months or even years. In this case, the use of snake venom as suggested by the neurologist is infrequently of value. Analgesics are usually unsuccessful. In some instances, a nerve block with procaine or one of its derivatives may bring relief to the hyperesthetic area. In the occasional case, deep x-ray therapy may also afford some relief. Surgical procedures such as sectioning of the sensory root of the ganglion or of the affected posterior roots (in cases of spinal cord involvement) are also effective in some instances. Within the past year, the use of cortisone or corticotropin (ACTH) (and the preference seems to be for the latter) has also been of value in certain instances. In view of this patient's age, these drugs should be administered with extreme caution and with close supervision, with particular reference to side-effects. The antibiotics are occasionally of value in the acute stage but would be ineffectual in this case.

BURN OF HAND

To the Editor:—*On Sept. 18, 1951, a patient was using an acetylene blowtorch to cut a piece of iron. The "slag" dropped into the palm of the right hand, causing a burn that will not completely heal. There is a group of vesicles the size of a dollar, some of which contain pus. Cultures of the contents of vesicles have been negative for fungi. The patient has had 8 or 10 x-ray treatments, with no appreciable result. I have been treating this man's hand with a desquamating ointment of 20% salicylic acid and nitrofurfuryl methyl ether (Furaspor) cream used alternately at bedtime, since May 18, 1953. Have you any advice on this subject?*

M.D., Washington.

Answer.—A burn due to the events described should eventuate in healing of the lesion within a few weeks or, at most, a few months. If the lesion has failed to heal after two years, a more thorough investigation is in order. The contents of the vesicles should be rechecked in the laboratory for bacteria and fungi. Furthermore, a biopsy specimen should be examined to rule out the possibility of malignancy. During this period, therapy should consist solely of application of a bland emollient such as ordinary petrolatum, in conjunction with a mildly astringent wet dressing (such as aluminum acetate [Burow' solution] in a dilution of 1 to 20), and should be continued for several weeks. Further measures would depend primarily on the findings encountered microscopically as well as by the clinical response to the preceding bland measures.

OPHTHALMIC OINTMENTS

TO THE EDITOR:—*I have read recently two articles condemning use of ophthalmic ointments in industry following corneal abrasions or the removal of imbedded foreign bodies. Before discarding this relatively common and time-honored procedure in a large industrial plant, we would appreciate some authoritative comment.*

M.D., California.

ANSWER.—Any ointment or antiseptic solution retards healing of corneal wounds and abrasions to some extent; however, the prevention of infection is so important that many authorities in industrial ophthalmology recommend them. Two authorities (E. P. Burch and G. H. Cross), writing in a standard textbook, recommend the use of an anesthetic and antiseptic ointment after the removal of a foreign body from the cornea and in severe abrasion of the cornea. Anesthetic solutions and ointments should be used sparingly, as both retard healing, and it is preferable to administer analgesics systemically to relieve pain. It has been routine practice with this consultant to instill an antiseptic ointment after the removal of a foreign body and for abrasions. This practice will be continued, although the use of local anesthetics will still be avoided so far as possible.

PAIN IN HEMIPLEGIC AREA

TO THE EDITOR:—*A 52-year-old white man has hemiplegia of the right side owing to cerebral hemorrhage. He is also aphasic. For a year and a half he has had almost continuous pain in the entire hemiplegic area. The pain bisects the body and is confined to his paralyzed side. I have used various narcotics but he had a shock reaction to 100 mg. of meperidine (Demerol), becoming colorless and pale with a weak to absent pulse and blood pressure of 60/40 mm. Hg. I have used methadone with fair results. What therapy will relieve his continuous pain?* *M.D., Pennsylvania.*

ANSWER.—The pain in this hemiplegic patient may have two possible sources; one is the muscular pain due to spasticity in the paralyzed side; the other is vascular or visceral pain that follows the pathway of blood vessels. All of the potent analgesics such as meperidine or opiates have a hypotensive factor that is characterized by a persistent histamine-like effect on the terminal blood vessels. Therefore, the hemiplegic patient is apt to have a greater drop in blood pressure than the normal person. By far the most effective therapy for the relief of this pain would be laminectomy and anterolateral cordotomy. This, however, must depend on the condition of the patient. Since the pain is of a visceral type, it should respond to procaine intravenously, which can be given as an infusion over a period of one hour in doses of 500 mg. If the procaine relieves the pain, the relief will be out of all proportion to the duration of the infusion; daily infusions may correct the painful condition. In the treatment of this patient with opiates or other habit-forming drugs, the possibility of addiction must be weighed against the risk of laminectomy.

PIGMENTED MOLES

TO THE EDITOR:—*I am aware of the danger of removing black moles by ordinary surgical methods. Please let me know whether this danger has been eliminated by the employment of an electrical cutting current.*

Heinrich F. Wolf, M.D., New York.

ANSWER.—Any method of removal of a black mole carries with it some element of risk, and the question as to whether one modality is better than another is still unsettled. There are no convincing statistics to settle the matter one way or the other. There is a strong feeling among some experienced observers that malignant moles are already malignant by the time the physician is consulted and that treatment has lit effect on their subsequent course. Shaw (*South. M. J.* 46: [March] 1953) found that most dermatologists on the ba of their experience favored electrosurgical methods. The pa presents an interesting and up-to-date discussion of the tre ment of pigmented moles.

BLACK DISCOLORATION BENEATH GOLD RING

TO THE EDITOR:—*In Queries and Minor Notes, Sept. 26, 19 page 455, is a reply to a Washington physician who wan information about black discoloration of the skin bene a gold ring. I wish to offer another explanation for phenomenon. The dermatologist is familiar with this m festation and refers to it as "black dermographism." complete description may be found in an article written Urbach and Pillsbury in* THE JOURNAL, *Feb. 13, 1943, p 485. Essentially, "black dermographism" is believed to a mechanical phenomenon in which a black line is produ by deposition of minute metallic particles on the skin. condition will take place when a powder of sufficient ha ness present on the skin is subjected to friction by cer metals. Face powder and street dust may fulfill the role in this patient's complaint, while less than 18 c gold (which contains a sufficiently high copper content render adequate hardness) fulfills the second requirement the phenomenon. The color of the powder present on skin has no effect on the result.*

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TRICHLORETHYLENE (TRILENE) ANESTHESIA

TO THE EDITOR:—*In the answer to the question on trichl ethylene (Trilene) anesthesia in Queries and Minor No Oct. 17, 1953, there is one point that seems to dese comment. In his authoritative monograph, "Trichlorethyl Anesthesia" (Edinburgh and London, E. & S. Livingst Ltd., 1953) Dr. Gordon Ostlere points out that the portant toxic product produced when trichlorethylene passed through soda lime is dichloracetylene and that production of phosgene in significant quantities is unlik under the conditions of administration. Dichloracetyl may produce, even in minute quantities, trigeminal pa which is the most feared complication of this anesth agent. In addition, it seems possible that use of a clo soda lime absorption system after previous administrat of trichlorethylene may be hazardous inasmuch as eli nation of the drug is slow. Ostlere reports a case trigeminal palsy developing under such circumstances. T additional information would seem important inasmuch the use of trichlorethylene is becoming more widespre Careless administration may result in the above compli tion with subsequent unjust criticism of the drug.*

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TO THE EDITOR:—*In* THE JOURNAL, *Oct. 17, 1953, page 6 in answer to a query regarding how soon a different an thetic may be used through the soda lime tower af trichlorethylene has been used, it is simply stated that short interval should be allowed to elapse. The followi case in Gordon Ostlere's book "Trichlorethylene Anesthesi shows how easily cranial nerve palsy may be produced the decomposition products of trichlorethylene over so lime. "A woman in labor had self-administered trichl ethylene analgesia in her home, under the supervision of midwife. She was then brought to the hospital, whe Caesarean section was performed under cyclopropane ane thesia. She developed a trigeminal palsy, and when t anesthetist later investigated the closed-circuit apparatus breathing from it he developed a similar lesion himself*

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ROENTGEN EXAMINATION OF THE COLON

CHAIRMAN'S ADDRESS

Paul C. Hodges, M.D., Chicago

The x-ray examination of the colon dates back to the previous century and to the earliest days of radiology, but it did not become a major clinical tool until the enema with opaque material displaced the oral administration of bismuth in 1911.[1] Barium sulfate supplanted bismuth salts a few years later. In this examination, as in so many others, the competence and diligence of the examiner are vastly more important than the precise nature of the techniques he employs, and a simple mixture of barium and water poured through a glass funnel under the supervision of a Harry Weber[2] is superior to a homogenized gum suspension introduced through a four-way valve by a novice, particularly if that novice is bored and overworked. But, while it is true that a master craftsman using the simplest tools can do superlative work, it is true also that even the expert's output can be increased by better tools, to say nothing of the output of the less skilled worker. When the work in question is the x-ray examination of the colon, it is important indeed that output be increased. At my own institution, for example, the daily scheduling of 20 colon examinations barely meets the current needs of our clinical colleagues, and if we were to proceed at the leisurely pace suggested by some teachers, these 20 examinations would tie up a team and a room for a full day instead of the half day we now devote to it.

Medium and large neoplasms, diverticulosis, diverticulitis, and ulcerative colitis can be diagnosed rapidly and dependably by reasonably experienced, reasonably diligent radiologists, almost without regard to the particular technique they employ, and surgeons and internists quite properly place great dependence on the radiologist's reports of his fluoroscopic and film findings in those conditions. If we were able to do nothing more than diagnose gross lesions, our barium enema examinations would continue to be major contributions to the understanding of colon disease, but it is generally agreed that further improvement in the cure rate of colon neoplasm requires that in addition we become able to detect small polyps while they are still benign.[3] The proctoscopist should be responsible for diagnosing those polyps that lie within the reach of his instrument, but above that level only radiology will suffice, and even it will succeed only when special techniques are employed. These techniques have to do with all three phases of the examination: first, the preparation of the patient; second, the nature and concentration of the vehicle in which the barium is suspended; and third, the amount of enema administered, the manner of its introduction and removal, and the manipulation of the patient during fluoroscopy and filming.

PREPARATION OF THE PATIENT

Ideally the barium enema should be administered only after the colon has been rendered completely free of feces, fluid, and gas, but we are ignoring our education and experience as physicians if we assume or even hope that the ideal can ever be accomplished. Few situations in medicine have called forth quite so much spoken and written foolishness as this one. Few orders to patients and nurses involve quite so much inconvenience and wasted effort as the fatuous order: "Repeat saline enemas until the return is clear." I do not pretend to know the perfect means of preparing the patient for the x-ray examination of the colon, but I am convinced that cleansing enemas are a poor means and that they should be avoided whenever possible. As usually administered by the patient, an orderly, or a nurse, such enemas introduce a considerable amount of air along with the salt solution, and the fluid

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From the Department of Radiology, the University of Chicago.

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Read in the Symposium on Roentgen Examination of the Gastrointestinal Tract before the Section on Radiology at the 102nd Annual Meeting of the American Medical Association, New York, June 3, 1953.

[1] Haenisch, G. F.: Die Röntgenuntersuchung bei Verengungen des Dickdarms: Röntgenologische Fruhdiagnose des. Dickdarmkarzinoms, München. med. Wchnschr. **58**: 2375-2379, 1911.

[2] Weber, H. M.: Roentgen Diagnosis of Diseases of the Colon: Evaluation of Methods, Am. J. Roentgenol. **31**: 607-613, 1934.

[3] McMillan, F. L., and Potter, R. M.: Small Lesions of Colon: Importance of Cooperation Between Surgeon and Roentgenologist in Diagnosis and Treatment, A. M. A. Arch. Surg. **64**: 686-695 (May) 1952. DeMuth, W. E., Jr.; Cherney, P. J., and Fitts, W. T., Jr.: Adenomatous Polyps of Colon and Rectum: Challenge in Cancer Prophylaxis, Surg., Gynec. & Obst. **94**: 195-199, 1952.

and air usually are incompletely expelled. If the enemas are given at home, the subsequent trip to the radiologist is hazardous, particularly if it has to be made by public transportation in a large city, and, if they are given in the x-ray department, a heavy additional load is placed on waiting space, dressing rooms, and technical staff. If the patient is in the hospital and the examination is scheduled for a morning hour, the task of administering a series of early morning enemas constitutes an almost unbearable added burden for short-handed, desperately overworked nursing staffs. Most important of all, it is our experience that these repeated cleansing enemas, which are so costly in time and effort, are less effective than the simpler alternative of administering 2 ounces (60 cc.) of castor oil on the day preceding the examination. Formerly we administered the oil at bedtime and allowed the patient to take supper, but there is reason to believe that a change recently made in this program will provide better preparation. The patient takes only clear liquids for 24 hours before the colon examination and then takes 2 ounces of castor oil 20 hours before the examination. Our orders to the patient stipulate exactly what is meant by clear fluids. He is allowed to take at will water, coffee, or tea with sugar, carbonated beverages, sweetened fruit juices, and clear soups. He is denied cream soups, gravies, noodles, crackers, milk, cream, eggs, and all solid foods. Such a regimen allows an outpatient to continue light work until the onset of catharsis and makes it possible for the inpatient to undergo other examinations and tests up to the hour of his x-ray appointment. It cannot be expected to succeed in all cases, but neither do saline enemas always succeed, regardless of how skillfully they are administered or how frequently they are repeated.

It has been argued that 1 ounce (30 cc.) of castor oil is as effective as 2 ounces, the second ounce merely remaining in the alimentary tract as droplets, which may simulate small polyps.[4] We have not experienced such difficulties, but we do know that the prescribing of 2 ounces of castor oil increases the likelihood that the patient will ingest at least 1 ounce in spite of the large residue that he almost invariably leaves in the bottle from which he pours the oil and the glass from which he drinks it. Because patients have such an aversion to castor oil, we, like others, have tried substituting less disliked cathartics but have found none that was equally effective. After all, the barium enema itself is not pleasant for the patient, and if it is worth while to subject him to that ordeal it should be worth while to insist that he take the cathartic most likely to render the examination effective.

FORMULATION OF THE BARIUM ENEMA

Insoluble barium sulfate has been the standard opaque medium for the alimentary tract for more than 30 years, and modern barium sulfate U. S. P. for x-ray diagnosis is plentiful, cheap, and conforms to rigid standards of purity. Much of the annual output of this highly purified barium sulfate is sold directly to radiologists or hospital pharmacies, where it is dispensed as a suspension in water alone or, more frequently, in water that has been thickened by kaolin,[1] starch,[5] agar, gelatine or one of the natural or synthetic gums.[6] Another large portion of the product is processed for or by drug houses, manufacturers of x-ray apparatus, or dealers, to be marketed by them under brand names.[7] Such processing consists in the addition of powdered acacia, tragacanth, pectin, gelatine, starch, methylcellulose, or some other suspending agent, plus sugar or saccharin and one or more flavoring agents. Some of the mixtures contain a little sodium carbonate and tartaric acid to produce effervescence. Some include aluminum silicate,[8] aluminum hydroxide, malted milk, or lecithin. In at least one instance the dry ingredients are mixed with water, run through a colloid mill, and sold to the consumer ready for use without further dilution. Unfortunately, only a few of these proprietary mixtures carry labels that are really informative, and in many instances the labels appear to have been composed by sales managers rather than chemists or pharmacists and seem calculated to mislead rather than to inform. Some such labels describe a "colloidally stabilized barium"; some speak of a "micro barium" and imply or even state that special processing has reduced the grain size of the barium sulfate, with resulting great improvement in its ability to adhere to intestinal mucosa. In some instances it is alleged that the pH of the barium particles has been "adjusted to the pH of the intestinal mucosa," with the result that the barium will flock out of suspension when it comes in contact with the mucosa.

There has been speculation and some experimental work concerning the possible clinical advantage of using barium sulfates in which the grain size is extremely small. A manufacturing chemist presently will make available to us barium sulfate having a grain size only one-tenth as large as that of his standard product. He believes it will have no advantage over ordinary barium, and, though we are inclined to agree with him, we will defer judgment until we have conducted clinical tests.

DEFINITION OF TERMS

Colloid chemistry is a field to itself, one in which even good physical chemists tread lightly, in which a nonchemist like myself proceeds at his own risk, and in which a little learning truly is a dangerous thing. I am told that modern colloid chemists use the term "colloidal" rather freely without too much reference to the size of the particles being suspended and without sharp distinction between the situation in which the particles are suspended by virtue of their own size and degree of hydration and the other situation in which larger particles are held in suspension because the dispersion medium has been thickened by the addition of emulsion colloids such as starch or gums.

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[4] Stevenson, C. A.; Moreton, R. D., and Cooper, E. M.: Nature of Fictitious Polyps in Colon, Am. J. Roentgenol. **63**: 89-94, 1950.

[5] Potter, R. M.: Dilute Contrast Media in Diagnosis of Lesions of Colon, Radiology **60**: 500-509, 1953.

[6] Windholz, F.; Kaplan, H. S., and Jones, H. H.: Preliminary Studies of Gastrointestinal Tract with Colloidal Barium, California Med. **74**: 155-160, 1951. Kirsh, I. E., and Spellberg, M. A.: Examination of Small Intestine with Carboxymethylcellulose, Radiology **60**: 701-707, 1953. Marks, M. M.: Barium Modification with Methocel in Diagnosis of Bowel Lesions, J. Internat. Coll. Surg. **15**: 143-146, 1951.

[7] Zimmer, E. A.: Radiology of Small Intestine: Studies on Contrast Media for X-ray Examination of Gastrointestinal Tract, Brit. J. Radiol. **24**: 245-251, 1951. Geyer, G.: Comparative Study of Commercial Opaque Preparations Containing Barium Sulfate, Fortschr. Geb. Röntgenstrahlen **34**: 953-956, 1926; abstracted, Am. J. Roentgenol. **18**: 292, 1927.

[8] Comparative Study of Clinical Bismuth Treatments, report of the Council on Pharmacy and Chemistry, J. A. M. A. **102**: 930 (March 24) 1934.

When colloid chemists are speaking to one another there is little risk of confusion if the term "colloidal barium sulfate" is applied to suspensions in gum of the sort we have all used for more than three decades, but such terminology is confusing to outsiders. Most physicians think of colloidal gold as a typical example of the colloid state and unless warned against it are apt to assume that the term "colloidal barium sulfate" connotes a material with a grain size ranging from 0.1 to 0.001 μ and a state of hydration that makes for a stable suspension in pure water without the aid of a suspending agent. Unfortunately, some authors and some of the purveyors of proprietary barium sulfate mixtures either have failed to realize that confusion might occur or perhaps have wished to confuse. It would be well for radiologists as a group to put an end to such confusion by declining to use the term "colloidal" except for those barium sulfates that meet the classical standards of grain size and hydration. We would do well to refer to the dry preparations as "powdered mixtures of barium sulfate" and to the suspensions in mucilage, etc., as "homogenized suspensions of barium sulfate."

TESTS ON PROPRIETARY PREPARATIONS

With the help of the records of the Council on Pharmacy and Chemistry of the American Medical Association and the able assistance of my colleagues Dr. E. S. G. Barrón and Mr. Edward W. Dunklin of the section of chemistry of our department of medicine and of Mr. Paul F. Parker and Mr. Clifton J. Latiolais of our hospital pharmacy, it has been possible to check and disprove some of the actual claims and broad implications made in behalf of certain proprietary mixtures and suspensions. For example, one such suspension, described as "colloidal barium," on centrifuging yields a clear supernatant fluid that is not pure water as one would expect in a genuine suspension colloid but instead an aqueous solution of cellulose sulfate, saccharin, and flavoring material, while the barium sulfate that forms the sediment has a grain size many times larger than would be the case if it were truly colloidal. Another preparation that is distributed in dry form and is described as "colloidally stabilized micro barium sulfate" proves to be a mixture of powdered pectin and barium sulfate, the latter having a grain size 25% larger than that of the product we regularly buy from a manufacturing chemist as standard quality barium sulfate U. S. P. The measurements of grain size were done with a Patterson-Cawood calibrated reticule in the eyepiece of a microscope.

MISLABELING

It should not be necessary for physicians to go to all this effort in order to find out what they are buying and dispensing, and it would cease to be necessary if we and our societies and journals would take a firm stand against allowing the advertising of improperly labeled products or writing papers or accepting them for publication if they were based on work with unidentified materials. Mislabeling fosters careless thinking, and it is not in America alone that the error occurs. A leading German textbook of radiology[9] refers to a "colloidal barium," which presumably is merely ordinary barium sulfate mixed with a powdered gum, and a well-known British text declares[10]: "The colloidal preparation of barium sulfate now on the market will stay in suspension for one-half hour and may be used without any suspending agent." We have not had the opportunity to examine the product in question here but are strongly of the opinion that the reason why no suspending agent need be added is that one is already present as a powdered gum, presumably one of the celluloses.

GENUINE COLLOIDAL BARIUM SULFATE

Dr. Barrón assures me that it should be possible to prepare genuine colloidal barium sulfate by titrating a solution of barium chloride with sodium sulfate. The product thus prepared could be washed free of soluble barium, and if it were kept wet and not allowed to dry it would make a stable suspension in water alone without the aid of a suspending medium, though its barium content would be low and its stability vulnerable to contact with acid or alkali. It is conceivable that the addition of small amounts of such material to ordinary homogenized suspensions would improve their diagnostic properties, but there is no assurance of this, and as yet we have not had the opportunity to put the matter to clinical test.

SUSPENDING MEDIUMS

Ideal Suspension.—The ideal homogenized suspension for use as a barium enema should hold the bulk of the barium in suspension for long periods of time and yet deposit on the colon mucosa a thin barium sulfate film that will persist for from 10 to 15 minutes after the main portion of the enema has been expelled. The opacity and viscosity of the suspension should be capable of adjustment independently over a wide range, and its tendency to clog enema tips and lines of connecting tubing should be minimum. Suspensions for oral administration should be palatable in addition to having these other qualities.

Synthetic Gums.—In the preparation of homogenized suspensions of barium sulfate, the synthetic gums have many advantages over such substances as starch, pectin, acacia, agar, tragacanth, and gelatine; and, among the synthetics, sodium carboxymethylcellulose (C. M. C.) seems to be better than most.[11] It was developed in Germany in 1918 and is manufactured in this country by the Hercules Powder Company. It is extremely effective in holding barium sulfate in suspension, is nontoxic, and, unlike the natural gums, is not digested or precipitated by the acid or alkaline juices of the gastrointestinal tract. It is possible to mix powdered C. M. C. with dry barium sulfate and then add the water later as the material is to be used, but it is better to prepare an aqueous mucilage of the gum and then mix this with barium sulfate and water. At the moment our own practice is to have the C. M. C.-barium sulfate-water mixture prepared in our own pharmacy, run through a colloid mill there, and dispensed to the radiology department in one-gallon jugs ready for use.

Tannic Acid and Silicones.—We have had no personal experience with 1% tannic acid added to the enema mix-

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[9] Schinz, H. R., and others: Lehrbuch der Röntgendiagnostik, ed. 5, Stuttgart, Georg Thieme, 1952, p. 2969.

[10] Shanks, C. S., and Kerley, P.: Textbook of X-Ray Diagnosis, ed. 2, Philadelphia, W. B. Saunders Company, 1950, vol. 3, p. 332.

[11] Bactowsky, E., and Presto, J.: Cellulose Preparations in Pharmacy and Medicine, Bull. Am. Soc. Hosp. Pharm. 7: 65-73, 1950.

and air usually are incompletely expelled. If the enemas are given at home, the subsequent trip to the radiologist is hazardous, particularly if it has to be made by public transportation in a large city, and, if they are given in the x-ray department, a heavy additional load is placed on waiting space, dressing rooms, and technical staff. If the patient is in the hospital and the examination is scheduled for a morning hour, the task of administering a series of early morning enemas constitutes an almost unbearable added burden for short-handed, desperately overworked nursing staffs. Most important of all, it is our experience that these repeated cleansing enemas, which are so costly in time and effort, are less effective than the simpler alternative of administering 2 ounces (60 cc.) of castor oil on the day preceding the examination. Formerly we administered the oil at bedtime and allowed the patient to take supper, but there is reason to believe that a change recently made in this program will provide better preparation. The patient takes only clear liquids for 24 hours before the colon examination and then takes 2 ounces of castor oil 20 hours before the examination. Our orders to the patient stipulate exactly what is meant by clear fluids. He is allowed to take at will water, coffee, or tea with sugar, carbonated beverages, sweetened fruit juices, and clear soups. He is denied cream soups, gravies, noodles, crackers, milk, cream, eggs, and all solid foods. Such a regimen allows an outpatient to continue light work until the onset of catharsis and makes it possible for the inpatient to undergo other examinations and tests up to the hour of his x-ray appointment. It cannot be expected to succeed in all cases, but neither do saline enemas always succeed, regardless of how skillfully they are administered or how frequently they are repeated.

It has been argued that 1 ounce (30 cc.) of castor oil is as effective as 2 ounces, the second ounce merely remaining in the alimentary tract as droplets, which may simulate small polyps.[4] We have not experienced such difficulties, but we do know that the prescribing of 2 ounces of castor oil increases the likelihood that the patient will ingest at least 1 ounce in spite of the large residue that he almost invariably leaves in the bottle from which he pours the oil and the glass from which he drinks it. Because patients have such an aversion to castor oil, we, like others, have tried substituting less disliked cathartics but have found none that was equally effective. After all, the barium enema itself is not pleasant for the patient, and if it is worth while to subject him to that ordeal it should be worth while to insist that he take the cathartic most likely to render the examination effective.

FORMULATION OF THE BARIUM ENEMA

Insoluble barium sulfate has been the standard opaque medium for the alimentary tract for more than 30 years, and modern barium sulfate U. S. P. for x-ray diagnosis is plentiful, cheap, and conforms to rigid standards of purity. Much of the annual output of this highly purified barium sulfate is sold directly to radiologists or hospital pharmacies, where it is dispensed as a suspension in water alone or, more frequently, in water that has been thickened by kaolin,[1] starch,[5] agar, gelatine or one of the natural or synthetic gums.[6] Another large portion of the product is processed for or by drug houses, manufacturers of x-ray apparatus, or dealers, to be marketed by them under brand names.[7] Such processing consists in the addition of powdered acacia, tragacanth, pectin, gelatine, starch, methylcellulose, or some other suspending agent, plus sugar or saccharin and one or more flavoring agents. Some of the mixtures contain a little sodium carbonate and tartaric acid to produce effervescence. Some include aluminum silicate,[8] aluminum hydroxide, malted milk, or lecithin. In at least one instance the dry ingredients are mixed with water, run through a colloid mill, and sold to the consumer ready for use without further dilution. Unfortunately, only a few of these proprietary mixtures carry labels that are really informative, and in many instances the labels appear to have been composed by sales managers rather than chemists or pharmacists and seem calculated to mislead rather than to inform. Some such labels describe a "colloidally stabilized barium"; some speak of a "micro barium" and imply or even state that special processing has reduced the grain size of the barium sulfate, with resulting great improvement in its ability to adhere to intestinal mucosa. In some instances it is alleged that the pH of the barium particles has been "adjusted to the pH of the intestinal mucosa," with the result that the barium will flock out of suspension when it comes in contact with the mucosa.

There has been speculation and some experimental work concerning the possible clinical advantage of using barium sulfates in which the grain size is extremely small. A manufacturing chemist presently will make available to us barium sulfate having a grain size only one-tenth as large as that of his standard product. He believes it will have no advantage over ordinary barium, and, though we are inclined to agree with him, we will defer judgment until we have conducted clinical tests.

DEFINITION OF TERMS

Colloid chemistry is a field to itself, one in which even good physical chemists tread lightly, in which a nonchemist like myself proceeds at his own risk, and in which a little learning truly is a dangerous thing. I am told that modern colloid chemists use the term "colloidal" rather freely without too much reference to the size of the particles being suspended and without sharp distinction between the situation in which the particles are suspended by virtue of their own size and degree of hydration and the other situation in which larger particles are held in suspension because the dispersion medium has been thickened by the addition of emulsion colloids such as starch or gums.

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[4] Stevenson, C. A.; Moreton, R. D., and Cooper, E. M.: Nature of Fictitious Polyps in Colon, Am. J. Roentgenol. **63**: 89-94, 1950.

[5] Potter, R. M.: Dilute Contrast Media in Diagnosis of Lesions of Colon, Radiology **60**: 500-509, 1953.

[6] Windholz, F.; Kaplan, H. S., and Jones, H. H.: Preliminary Studies of Gastrointestinal Tract with Colloidal Barium, California Med. **74**: 155-160, 1951. Kirsh, I. E., and Spellberg, M. A.: Examination of Small Intestine with Carboxymethylcellulose, Radiology **60**: 701-707, 1953. Marks, M. M.: Barium Modification with Methocel in Diagnosis of Bowel Lesions, J. Internat. Coll. Surg. **15**: 143-146, 1951.

[7] Zimmer, E. A.: Radiology of Small Intestine: Studies on Contrast Media for X-ray Examination of Gastrointestinal Tract, Brit. J. Radiol. **24**: 245-251, 1951. Geyer, G.: Comparative Study of Commercial Opaque Preparations Containing Barium Sulfate, Fortschr. Geb. Röntgenstrahlen **34**: 953-956, 1926; abstracted, Am. J. Roentgenol. **18**: 292, 1927.

[8] Comparative Study of Clinical Bismuth Treatments, report of the Council on Pharmacy and Chemistry, J. A. M. A. **102**: 930 (March 24) 1934.

When colloid chemists are speaking to one another there is little risk of confusion if the term "colloidal barium sulfate" is applied to suspensions in gum of the sort we have all used for more than three decades, but such terminology is confusing to outsiders. Most physicians think of colloidal gold as a typical example of the colloid state and unless warned against it are apt to assume that the term "colloidal barium sulfate" connotes a material with a grain size ranging from 0.1 to 0.001 μ and a state of hydration that makes for a stable suspension in pure water without the aid of a suspending agent. Unfortunately, some authors and some of the purveyors of proprietary barium sulfate mixtures either have failed to realize that confusion might occur or perhaps have wished to confuse. It would be well for radiologists as a group to put an end to such confusion by declining to use the term "colloidal" except for those barium sulfates that meet the classical standards of grain size and hydration. We would do well to refer to the dry preparations as "powdered mixtures of barium sulfate" and to the suspensions in mucilage, etc., as "homogenized suspensions of barium sulfate."

TESTS ON PROPRIETARY PREPARATIONS

With the help of the records of the Council on Pharmacy and Chemistry of the American Medical Association and the able assistance of my colleagues Dr. E. S. G. Barrón and Mr. Edward W. Dunklin of the section of chemistry of our department of medicine and of Mr. Paul F. Parker and Mr. Clifton J. Latiolais of our hospital pharmacy, it has been possible to check and disprove some of the actual claims and broad implications made in behalf of certain proprietary mixtures and suspensions. For example, one such suspension, described as "colloidal barium," on centrifuging yields a clear supernatant fluid that is not pure water as one would expect in a genuine suspension colloid but instead an aqueous solution of cellulose sulfate, saccharin, and flavoring material, while the barium sulfate that forms the sediment has a grain size many times larger than would be the case if it were truly colloidal. Another preparation that is distributed in dry form and is described as "colloidally stabilized micro barium sulfate" proves to be a mixture of powdered pectin and barium sulfate, the latter having a grain size 25% larger than that of the product we regularly buy from a manufacturing chemist as standard quality barium sulfate U. S. P. The measurements of grain size were done with a Patterson-Cawood calibrated reticule in the eyepiece of a microscope.

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Tannic Acid and Silicones.—We have had no personal experience with 1% tannic acid added to the enema mixture but are not greatly impressed by published reports of its use. On little more than a hunch, we have begun trials with bariums that have been coated with various silicones before they are mixed with water and C. M. C. mucilage.

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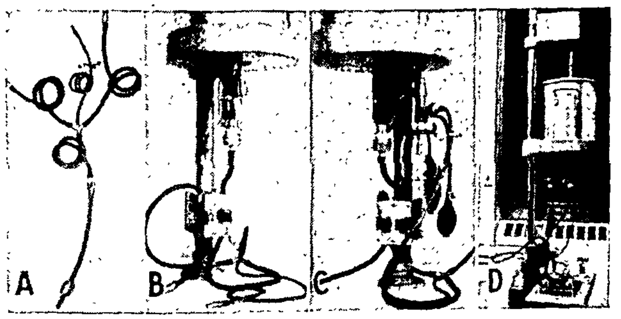
[9] Schinz, H. R., and others: Lehrbuch der Röntgendiagnostik, ed. 5, Stuttgart, Georg Thieme, 1952, p. 2969.

[10] Shanks, C. S., and Kerley, P.: Textbook of X-Ray Diagnosis, ed. 2, Philadelphia, W. B. Saunders Company, 1950, vol. 3, p. 332.

[11] Bactowsky, E., and Presto, J.: Cellulose Preparations in Pharmacy and Medicine, Bull. Am. Soc. Hosp. Pharm. 7: 65-73, 1950.

NEED FOR EXPERIMENTATION

Radiologists, chemists, and pharmacists should be encouraged to work at improving barium sulfate suspensions for oral and rectal administration, but their work will be most effective if it is stripped of every vestige of secrecy. Conceivably a precise control of the pH of the mixture might be conducive to the best results, and possibly a suspension in which the pH had been carefully adjusted and then buffered to resist the acidity of the gastric juice and the alkalinity of the intestine would be clinically advantageous. This is only a guess, however, and I am told that the gums themselves are such excellent buffering agents that it is unlikely that anything better could be found. I have omitted mention of the use of the iodized oils and colloidal thorium dioxide as gastrointestinal opaque mediums because the former have such a limited application and the latter is so impractical because of its radioactivity, to say nothing of its cost.



Barium enema apparatus. *A*, the enema tube assembly or harness. *B*, here the harness is being loaded into the apparatus. Pinchcock beneath the supply pot is closed. The crank of the four-way pinchcock is in the down or load position. The supply line has been inserted in the four-way cock and connected to the supply tank. The drainage line is in the process of being inserted but the gate that retains it is still open. *C*, both gates are now closed. The crank of the four-way pinchcock has been turned to the hold position, which pinches off both supply line and drainage line. The hand pinchcock beneath the supply pot has been opened. The air supply has been attached to its bracket and the air hose has been connected to the air supply. *D*, apparatus completely assembled at foot of fluoroscopic table. A sink beneath the supply pot catches the small amount of barium that is lost as harnesses are being changed between patients.

OBJECTIVES AND PROCEDURES

The techniques and criteria for detecting gross lesions of the colon have become reasonably well standardized and need not be considered here, but there is still debate as to the best means of detecting small polyps. Some radiologists prefer the air-contrast methods,[12] by which is meant the making of single or, preferably, stereoscopic roentgenograms after the mucosa of the bowel has been coated with barium sulfate and the lumen distended with air so that polyps show as rounded translucent masses thinly coated with barium. Others employ dilute suspen
sions of barium sulfate and subsequent filming, preferabl
stereoscopic, using radiation of moderate voltage,[illegible] b
which procedure polyps appear as negative shadows see
through the dilute barium that fills the lumen of the colo
Some of the published roentgenograms made by th
method are convincing indeed, but admittedly fluoro
copy is rendered somewhat more difficult because of t
low degree of contrast between the barium-filled loo
of bowel and the surrounding abdominal structur
Another method has been to employ barium suspensio
of normal opacity that show well on the fluorosco
screen when fluoroscopy is done at moderate voltage a
then to use higher voltage for making the films.[13] T
seems to be a logical approach, but at the moment f
radiologists are equipped with high-voltage diagno
machines. No doubt most of us agree with those w
believe that all of the methods have advantages and
advantages and that even a combination of all meth
will not suffice in all cases.

TECHNICAL DEVICES

Except where a maximum number of patients must
examined in a minimum amount of time, the simp
of devices suffice, but, where the volume of work is la
considerable time can be saved by employing spe
equipment. In 1936 Sarasin [14] described an appar
that enabled the radiologist to select at will full-stren
or diluted thorium dioxide for injection into the co
Injection was accomplished by compressed air at f
4.5 to 6 lb. to the square inch, and a valve that sele
either the full-strength medium or the diluted medium
under the control of a foot switch.

At the 1950 session of the American Medical Asso
tion in San Francisco, Dr. F. E. Templeton demonstr
and subsequently with Dr. E. A. Addington publish
description of an apparatus to facilitate filling and dr
ing the colon and introducing air after the bulk of
enema had been expelled.[12] These authors have supp
us with one of their instruments, and it has served as
starting point for apparatus of our own (figure). I
Templeton and Addington, we employ crank-oper
cams to operate pinchcocks that close or open line
rubber tubing, this unit constituting a four-way pi
cock, which in the first position allows barium to flow
the colon, in the second position closes both filling
draining lines, in the third position allows barium to
out of the colon into the sewer, and in the fourth posi
frees both lines so that the "gates" can be opened a
new harness of enema tip and connecting lines substit
for the one used for the previous patient. These ass
blies or harnesses are built up on a cross-shaped fit
that we make by welding a 3/16 in. aluminum nipple
the space between two of the limbs of a commercial 5
in. aluminum Y. This added nipple carries the air
and the neighboring 5/16 in. nipples are used, one
the supply of fresh barium suspension, the other
drainage. The third or common limb of the Y carries
enema tip, which is sometimes of metal, more freque
of the self-retaining rubber type (Bard No. 40). All th
lines are equipped with Schrader snap-on fittings so t
they may be quickly and easily attached to the air sup
the barium supply, and the drainage ejector.

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[12] Templeton, F. E., and Addington, E. A.: Roentgenologic Examination of Colon Using Drainage and Negative Pressure, with Special Reference to Early Diagnosis of Neoplasm, J. A. M. A. **145**: 702-704 (March 10) 1951.

[13] Gianturco, C., and Miller, G. A.: High-Voltage Radiography for Detection of Colonic Polypi: Selected Papers of the Carle Foundation, Urbana, Ill. **6**: 123, 1953.

[14] Sarasin, R.: Apparatus Simplifying Technic of Administration of Opaque Enemas, Especially for the Mucosa, Bull. et mém. soc. de radiol. méd. de France **20**: 276-277, 1932; abstracted, Am. J. Roentgenol. **35**: 571, 1936.

The barium supply is stored in a 16-quart aluminum stockpot resting on a shelf that is clamped to a steel mast erected at the foot of the horizontal fluoroscope. Close to this mast and the foot of the table is a small sink equipped with a Penberthy ejector. The four-way pinchcock is buckled to a bracket or the vertical mast in a manner that allows rapid detachment for daily cleaning, and the shelf that carries the stockpot also provides support for the snap-on fitting in the barium supply line, a hand-operated pinchcock to shut off the supply during the changing of enema tube assemblies, and the glass jar, pump bulb, expansion bag, etc., that are used for inflating the colon.

The injection of barium can be started or stopped by turning the crank of the four-way pinchcock to the "fill" or to the "hold" position, and when it is desired that the enema be expelled this is done by turning the crank to the "drain" position and turning on the water to the Penberthy ejector. To inflate the colon one first drains it, then turns the crank of the four-way pinchcock to the hold position and opens the pinchcock on the air line. Now, by pumping the hand bulb, air is forced through the glass trap, through the small nipple of the cross, and through the enema tip into the bowel, backflow into the supply line and drainage line being prevented by the fact that with the handle at the hold position both of these lines are clamped.

To remove a harness that has been used by one patient in preparation for the insertion of a fresh one for the succeeding patient, one first closes the handcock beneath the stockpot and then turns the crank to the "load" position. The gates are now opened and the supply line disconnected from the fitting beneath the stockpot. When this has been done, fresh barium suspension will drain from the short run of supply line between the handcock and the Schrader fitting, but the amount is small, and most of it can be made to spill into the sink beneath. The air line likewise is disconnected at its Schrader fitting and last of all the drainage line from the Penberthy ejector. Of all three lines, this latter is the only one that becomes contaminated during the examination, and the apparatus has been designed so that with the exercise of reasonable care cross contamination will not occur from one patient to another.

MICROFILM SURVEYS OF COLON AFTER ORAL ADMINISTRATION OF BARIUM

The early work on examination of the colon following the oral administration of bismuth was so much less satisfactory than examination with the aid of the opaque enema that most radiologists are prejudiced against any return to the old method of attack. There is obvious need, however, for conducting routine photofluorographic surveys of the colon similar to those now established as standard procedures in the case of the lungs, and obviously for such work the barium cannot be introduced by rectum. As better homogenized suspensions of barium sulfate are produced, it seems increasingly possible that we may be able to devise mediums that will hold the barium in suspension throughout its entire passage through the alimentary tract, and in recent years the development of high-speed reflector cameras and more recently new fast refractors has brought the abdomen within the scope of the photofluorograph. An apparatus of this sort in which 70 mm. roll film is used has been under development by us for some time, was reported in September, 1952, at the annual meeting of the American Roentgen Ray Society, and presently will be published in the journal of that society. In the first model of our camera, the film-moving mechanism required the use of special thick-based film, and the loading and unloading of the film was a slow and difficult job. We have under construction a new film-moving mechanism in which film of standard thickness is used. It is extremely simple to load, and as soon as it is completed, we will begin routine colon surveys for symptomless polyps as well as other unsuspected lesions.

SUMMARY

Well-established and long-accepted techniques suffice for the radiologic detection of gross colon lesions, and the greatest contribution of radiology to the control of colon disease lies in this area. There is growing appreciation, however, of the importance of extending the colon x-ray examination to include the detection of very small lesions, particularly multiple polyps, and in this area there are difficulties that challenge existing techniques. Improvements are needed in the preparation of the patient, the formulation of barium suspensions, and the facilities for introducing and removing the barium and inflating the colon with air. Liquid diet and castor oil are preferable to cleansing enemas as preparation for colon examinations, and mucilage of sodium carboxymethylcellulose is a superior suspending agent for barium sulfate. An apparatus is described for facilitating the filling, draining, and insufflation of the colon in institutions where a maximum number of patients must be examined in a minimum of time. Where the volume of work is not large, simple accessories will yield equally satisfactory results. Routine small film surveys of the colon following the oral administration of barium suspensions eventually may be developed to the point where they approximate the usefulness of small film chest surveys.

950 E. 59th St.

Push-Button Diagnosticians.—I often think that if I were asked quickly to examine a group of men applying for the Diploma of the National Board of Internal Medicine I would test them on a patient suffering from a severe neurosis, bad migraine or mild psychosis, or the results of a little stroke, but with silent stones in the gallbladder, an old, long-healed "duodenal ulcer," a movable but silent and harmless right kidney, a harmless diverticulum of the duodenum, a silent diaphragmatic hernia, a colon covered with silent and harmless diverticula, some harmless cervical ribs, a silent myoma of the uterus, a large but harmless retrocecal appendix, a loud but harmless congenital heart murmur or a symptomless bundle-branch block.

The applicants who had enough clinical sense and wisdom not to grasp quickly and happily and confidently at the diagnostic straw offered them would be passed; the rest would be deferred. They, obviously, could not yet have attained into clinical wisdom. They would still be ordinary push-button diagnosticians, men like the head of a small clinic, who, on introducing me to his laboratory assistant, said: "Here's the woman who makes my diagnoses." How fearful I was that he was telling the truth!—W. C. Alvarez, M.D., On Disregarding Findings That Cannot Explain the Syndrome, *The New England Journal of Medicine*, July 30, 1953.

LIMITATIONS IN THE USE OF ROENTGEN EXAMINATION OF THE GASTROINTESTINAL TRACT

Paul C. Swenson, M.D.
and
Robert B. Jeffrey, M.D., Philadelphia

Within two years after Roentgen's discovery of the x-ray, Cannon studied the movements of the stomach and intestines of cats on the fluoroscopic screen after giving them food mixed with bismuth subnitrate. Shortly thereafter, Francis Williams applied a similar technique to human subjects, and an important and extremely useful method for examination of the digestive tract had its beginning. Today, the conventional fluoroscopic and radiographic examination of the gastrointestinal tract remains the safest and the most informative study of this system; however, this method of examination is by no means absolute, for there are many inherent limitations.

In many instances, varying with the anatomy of the subject examined and the conditions under which the examination is conducted, little credence should be attached to certain indefinite findings or to a negative study. Therefore, just as it is true that pathological change cannot be correctly interpreted when normal variants are not known, it is also true that any diagnostic study reaches its full value only when its limitations are well known and carefully considered.

There are several instances in which a properly conducted and interpreted roentgen examination of the gastrointestinal tract may yield results that are conflicting or fallacious. The first instance is a completely normal-appearing study when actually abnormality exists; the so-called subroentgenographic types of disease without apparent detectable structural or functional change in the gastrointestinal tract. A second instance is the finding of a structural or functional change, but failure to correctly interpret it. It is certainly not always possible to correctly interpret pathological change, although experience and the use of the best diagnostic aids reduce this error to a minimum. Not all findings are specific. They may be characteristic but not typical, in which case the clinical background must be carefully correlated. A third instance occurs in the study of specific areas of the gastrointestinal tract where it is difficult, at times, to demonstrate abnormalities even when they are known to be present. This fact is especially true in examination of the small intestine when, for example, a Meckel's diverticulum is known to be present and yet escapes detection in conventional studies.

TECHNIQUE

It is important to review the techniques and the actual mechanisms employed in studying the gastrointestinal tract. A suitable contrast medium, usually a suspension of barium sulfate or, in special instances, an opaque oil, can coat the inner or mucosal surface of the gastrointestinal tract. Any abnormality that is to be detected must produce some change in the accepted normal appearance of this inner surface of the hollow viscus under examination. The areas under examination are studied dynamically by fluoroscopy and are recorded for further careful study by properly exposed roentgenograms. All available variations of techniques should be employed to obtain the maximum of information. The use of skillful palpation, relief techniques, compression, double contrast study, and other special techniques, such as the addition of suspected allergens or psychic stimuli, may add to the informative value of the study.

The detection of physiological, anatomic, or functional change in many instances requires several different types of approach. A carefully recorded history and a brief but pertinent preliminary physical evaluation of the patient may suggest a variation of normal technique. The radiologist, like any other consultant, should have all the significant clinical information concerning the patient readily available. This is important in order to avoid excessive manipulation that may add to the very ill patient's distress or complicate his illness and is also important in other instances, for only when the radiologist has all the clinical information available can he be expected to intelligently interpret his findings.

The demonstration of any lesion in the gastrointestinal tract is dependent on its size. Every mucosal lesion has its intramural beginning, and until it (1) attains sufficient size for detection through a distortion of the mucosal silhouette by ulceration; (2) produces a filling defect; or (3) interferes with the intramural nervous mechanism, thereby affecting or producing apparent inflexibility, it is likely to remain undetected. However, a colonic neoplasm as small as 2 or 3 mm. may be demonstrated by a good double contrast roentgenogram, providing the colon has been properly prepared. The colon can be the most satisfactory part of the gastrointestinal tract for examination, provided good preparation has been accomplished, for one can control the amount and admixture of barium and air to produce the proper double contrast, if necessary, and, moreover, palpation can be carried out satisfactorily, particularly on the left side. It is, however, important to mention that the radiologist should not be responsible for diagnosis of diseases of the rectum. No x-ray procedure could, in any way, take the place of direct endoscopy in this location.

The gastrointestinal examination is worthy of the same preparation as a surgical procedure. If rigid attention to detail is carried out in this regard, more information will be forthcoming. The number of repeat examinations will be materially reduced, effecting a saving in time and expense to the radiologist, the institution that he may be serving, and the patient, to say nothing of the diminished radiation exposure to both the patient and the physician. In no other division of roentgen diagnosis

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Read in the Symposium on Roentgen Examination of the Gastrointestinal Tract before the Section on Radiology at the 102nd Annual Meeting of the American Medical Association, New York, June 3, 1953.

are technical procedure and routine of examination more important than in the study of the gastrointestinal tract. Thus, the accuracy and success of the method depend on the knowledge, care, and skill of the physician conducting the examination, as well as the careful attention to details in the preparation of the patient. It should be the aim of the examiner to obtain the utmost information possible from each examination within the limits of the safety, comfort, and tolerance of the patient. Proper preparation makes such information easier to acquire.

Since we can visualize only the inside silhouette of the lumen of the organ being studied, and any effect noted must produce a change in its appearance, either structurally or functionally, a mass lesion will not become apparent until it has either attained sufficient size to change the mucosal surface by stretching, ulceration, or induration or produced a secondary functional change. Extralumenal masses can be detected if they are large enough and closely enough associated with the gastrointestinal tract to produce pressure effects on the lumenal silhouette. Moreover, the fluoroscopic manipulation will give one an idea of the relationship of the extralumenal masses to the gastrointestinal lumen.

Secondary manifestations that appear as gastrointestinal findings but are dependent on lesions adjacent to the gastrointestinal tract and its appendages are often detected, but they may be confusing. By interference with the blood supply, lymph drainage, or innervation, they produce changes in the appearance of the intestinal pattern. Localized motor changes appear reflexly and are often related to extralumenal lesions or the lesions at some distant point in the gastrointestinal tract.

The condition of any region at the time of study influences its roentgen appearance; for example, a narrow-necked diverticulum, by its very nature, may not fill, particularly if there is any associated inflammatory change, spasm, or edema. The regions may be filled with blood clot or fecal material and thus not permit filling with the opaque medium. In some instances, the neck of a diverticulum may be so wide that it will fail to hold the barium long enough to be detected. True diverticula, such as Meckel's diverticulum, empty as readily as the rest of the intestinal lumen. If bleeding occurs from such a lesion, it becomes more irritable; and, if inflamed, it becomes occluded.

Functional changes in the gastrointestinal tract are probably as common as functional changes in any other organ system in the body. They may be minimal in extent, or they may be so severe that they eventually produce extensive structural change. Emotional and allergic manifestations can produce marked change in the appearance of the bowel. Etiological diagnosis, in such instances, may be difficult to make because of similarity of pattern.

ESOPHAGUS

While barium studies of the esophagus may aid in specific cases, there are one or two limitations that must be noted. The first is the possibility of missing rather small lesions in the mucosal surface by not having several films with different degrees of filling. When there is no obstruction, the speed of passage of barium down the esophagus will often preclude the detection of a very small lesion without careful fluoroscopic study and serial films. Varicosities, unless they are very far advanced, may often escape detection, because peristalsis may "milk" them out; or they may be collapsed from recent hemorrhage. Therefore, careful fluoroscopic examination in all projections, with films made in various stages of filling, is usually necessary in order to see a small lesion. Even they may be missed, so that it can be said that varices can never be ruled out by radiological means. However, when lesions are large, the positive findings are obvious. Another rather annoying limitation of the examination of the esophagus is the difficulty of detecting small superficial ulceration associated with a diaphragmatic hernia or actual peptic ulceration.

STOMACH

In the stomach the greatest difficulty is at the upper end where palpation is not readily carried out. Here, even with good positioning and careful fluoroscopic control of roentgenographic projections it is easy to miss small lesions. This has been called the radiological "blind spot." Intramural lesions often give trouble unless careful fluoroscopy or a large series of films will show an apparent inflexibility of the stomach wall. Hyper-rugosity (increased mucosal folds) is a nonspecific finding that may be either inflammatory or the result of intramural infiltration. When there is doubt, early follow-up studies and gastroscopy are important adjuncts to the original roentgen examination of the stomach.

One of the greatest problems is distinguishing between a simple ulcer and an ulcer based on cancer or associated with a cancer. There are certain characteristic findings with the simple peptic ulcer, but there is a borderline type in which it is very difficult to tell whether there is an associated cancer. Unfortunately, no definite help is forthcoming from the gastroscopist in most of these cases. It is fortunate, however, that this borderline type is relatively small.

The radiologist is usually correct in his interpretation when he finds that the lesion appears radiographically benign. In questionable cases the patient can be put on a strict dietary regimen as a test of the lesion's benign nature (with early follow-up films), or exploration can be done immediately. An ulcer that is associated with cancer rarely decreases in size or disappears with a dietary regimen. The portion of stomach wall in which a malignant ulcer is present does not return to its usual normal flexibility, whereas almost always a complete restitution to normal occurs in a case of simple ulcer. The only crater associated with a cancer that we have seen disappear has been associated with the superficially spreading type of cancer. After the ulcer filled in, however, an area of apparent induration within the wall remained.

SMALL INTESTINE AND COLON

In the small intestine the intramural lesion that may produce very little effect on the mucosa of the wall is obviously very difficult to demonstrate. The obstruction appears relatively late, and the barium moves through rather rapidly; so that, unless careful fluoroscopy is carried out, lesions of this sort are easily missed. This is particularly true when a dumbbell variety of lesion is present in which the extralumenal mass may be larger than the intralumenal mass. The nonspecific finding of a swollen irregular mucosal pattern with segmentation and sometimes widening of the lumen can be caused by either local intramural changes or mesenteric involvement, in which case either the intramural nervous mechanism or the lymph-vascular and blood supply is affected. The blood supply and lymph-vascular drainage can be affected both by inflammatory change and by neoplasm. The pattern and transit time may be affected further by the following factors: (1) so-called allergic (food sensitivity) changes; (2) tumor, either intramural or mesenteric; (3) intramural inflammatory changes; and (4) extralumenal masses, which will affect the pattern. The findings in the obstructing lesions, which are often definitive, may sometimes be very difficult to interpret completely.

In the colon the size of the lesion is the only limitation (if careful preparation is carried out), since the examination can be better controlled than elsewhere in the gastrointestinal tract.

CONCLUSIONS

An acknowledgment of the limitations of the roentgen examination is no apology for it but rather renders it more valuable in the hands of the person who is attempting to interpret the findings. There are many limitations to every diagnostic procedure. In spite of the shortcomings, however, the roentgen examination remains at present the most important single diagnostic modality short of exploration and biopsy.

1020 Sansom St. (7) (Dr. Swenson).

GASTRIC DIVERTICULA

A. W. Sommer, M.D.
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Gastric diverticula are relatively uncommon, but not actually rare. Many authors still stress the rarity of this abnormality, in spite of the fact that reported cases are now quite numerous. The first diverticulum to be diagnosed radiologically was reported by Brown [1] in 1916. With the increasingly frequent use of roentgen rays in gastrointestinal diagnosis, there has been a gradual accumulation of reported cases. Palmer [2] found reports of 412 cases in a recent very complete review of the literature. Since then, Eells and Simril [3] have reported 31 cases. In an extensive study of the literature to January, 1953, we were able to find reports of 449 valid cases. The diagnosis was based on roentgen examination alone in two-thirds of the cases. Relatively few were diagnosed gastroscopically. Thirty-eight diverticula were found incidentally at autopsy.[2] Undoubtedly, other diverticula have been diagnosed but have not been reported.

Kaufmann [4] has defined gastric diverticula as circumscribed, more or less rounded or bag-shaped protrusions from the lumen of the stomach containing all three layers. There has been much speculation regarding the origin of this abnormality and considerable confusion and inaccuracy in classification. Because this paper is limited to a consideration of the clinical and roentgenological characteristics of gastric diverticula, it is not necessary or desirable for us to become involved in this controversy.

SYMPTOMS

Symptoms due to diverticulum of the stomach may be lacking, and, when present, are usually vague and not characteristic. The most frequent complaint is epigastric discomfort, ranging from vague dyspepsia to severe, cramp-like pain in the epigastrium and the lower retrosternal region. Pain frequently occurs shortly after eating. It may be worse at night or when the patient is in the recumbent position. Nausea, vomiting, and dysphagia are occasional complaints. Symptoms are often intermittent, with relatively long remissions and sudden exacerbations. Uncomplicated gastric diverticula are frequently silent anomalies. In about one-third of the reported cases there were symptoms that were attributed to the diverticulum.

COMPLICATIONS

Bleeding is the commonest complication,[5] although serious hemorrhage is rare. Mucosal changes, such as erosion, gastritis, or superficial ulceration, were reported in one-third to one-half of the specimens that were examined. Aberrant pancreatic tissue was found in at least 15 specimens. Three instances of perforation of a diverticulum with hemorrhage into the peritoneal cavity have been reported.[6] There have been reports of gastric diverticula associated with both benign and malignant neoplasms. Some of these undoubtedly should have been classified as pseudodiverticula, because gastric neoplasms frequently develops central necrosis with the formation of a sac-like defect. In the reported cases, there was no definite proof that the diverticulum preceded the neoplasm. We have found no convincing evidence that carcinoma is more likely to occur in a diverticulum than in nondiverticular gastric tissue.

From the Department of Radiology of the Scott and White Clinic (Dr. Sommer); Resident in Radiology, Scott and White Memorial Hospitals and the Scott, Sherwood and Brindley Foundation (Dr. Goodrich).

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Fig. 1.—Typical diverticulum 2 cm. in diameter arising from the posterior gastric wall about 3 cm. from the esophagogastric junction.

We were prompted to study this condition when we became aware of a marked increase in the frequency of our roentgen diagnosis of gastric diverticula. In 1952 the diagnosis was made nine times in 5,110 patients who were subjected to roentgen examination of the stomach, giving an incidence of one diverticulum discovered per 568 examinations. In the previous 10 years only eight cases were found in 44,870 such examinations, an incidence of one in 5,610 examinations. The significance of this variation in the discovery rate will be discussed. A total of 21 diverticula were diagnosed during a period of 26 years (table 1).

ANALYSIS OF OUR CASES

Location and Size.—Twenty of the 21 diverticula in this series were situated at the cardiac end of the stomach, arising from the posterior wall 3 to 5 cm. from the esophagogastric junction. One was located in the prepyloric region, on the greater curvature side, about 2 cm. from the pylorus (table 2). Half of the diverticula were from 2 to 3 cm. in diameter (range 1 to 5 cm.) Barium was retained in the diverticulum in 53% of the patients having subsequent roentgenograms.

TABLE 1.—*Number and Incidence of Gastric Diverticula Seen at Scott and White Clinic, 1927-1952*

	1952	1942-1951	1927-1941	Total
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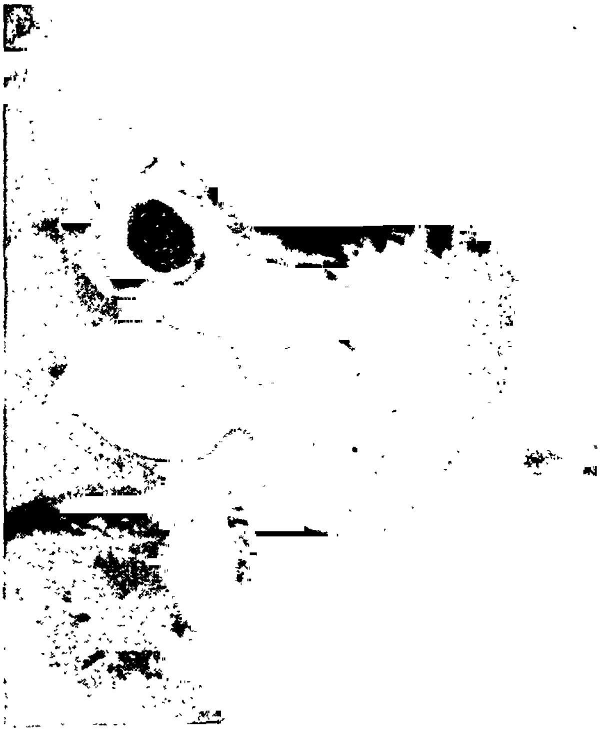
Incidence	1:568	1:5,610	1:8,447	1:3,990

Age and Sex.—The ages of the patients in our series ranged from 23 to 77 years; 11 were 50 years of age or older, and 10 were 23 to 50 years. More than half, or 60%, of the patients were women.

Relation of Symptoms to Diverticulum.—Only six patients had symptoms that we attributed to the gastric diverticulum. Pain was present in each of these patients, with radiation to the lower retrosternal region in three instances. In two patients, the pain was severer at night, and three had aggravation of distress after meals. There



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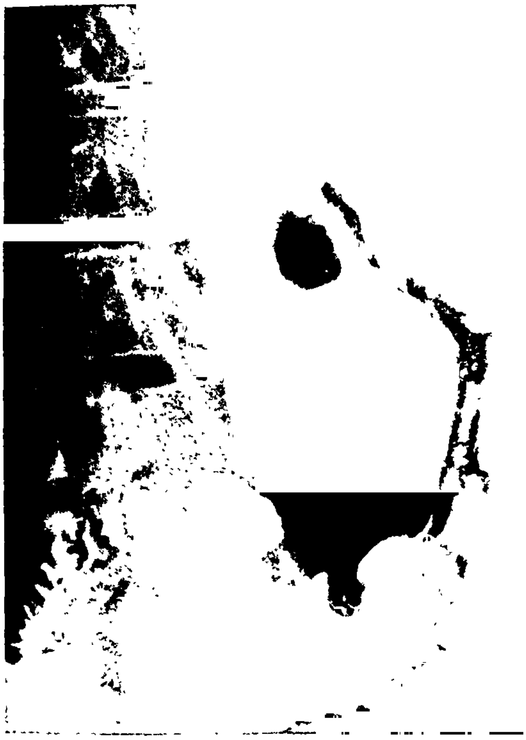

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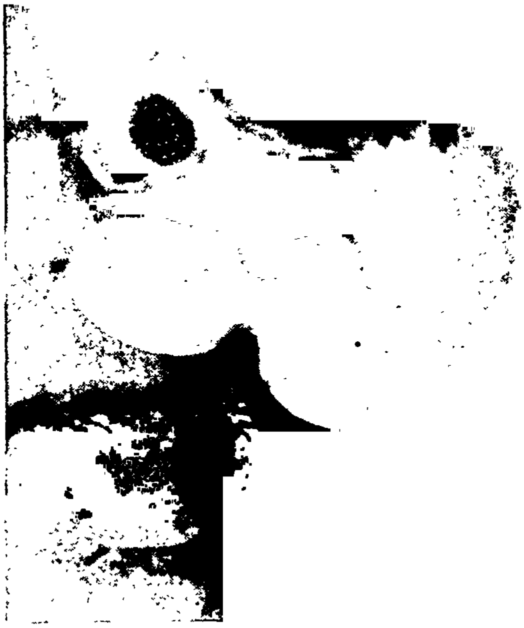

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was evidence of bleeding in three patients; one vomited blood and two had tarry stools (table 2). Three patients who are still under observation, have symptoms that may be due to the diverticulum (table 2).

Twelve patients either had no symptoms or had symptoms that could be attributed to causes other than the diverticulum. Seven patients had associated duodenal ulcer. One had cholelithiasis, and acute appendicitis developed in one while he was under observation. Both of these patients obtained relief of their symptoms after surgery, although the diverticulum was not disturbed in either instance. One patient with a diverticulum adjacent to the cardia, discovered 25 years ago, has never had symptoms. This patient has been examined periodically and the diverticulum has remained unchanged.

Treatment.—Three of our patients were subjected to surgery for gastric diverticulum (table 3). Thus 14% of patients with gastric diverticula received surgical treatment for their condition. Following are reports of these three cases:-

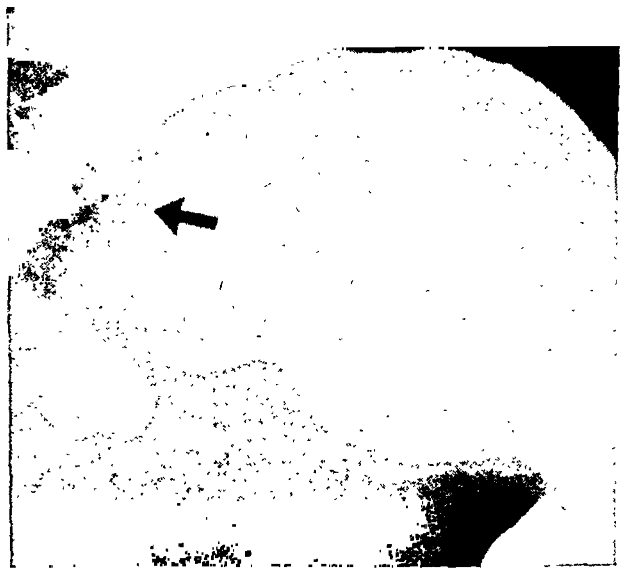

Fig. 3.—Diverticulum 2½ cm. in diameter adjacent to the cardia. The black arrow points to the esophageal orifice. Normal mucosal markings can be seen in the narrow neck.

REPORT OF CASES

Case 1.—A 50-year-old man reported to this clinic because of burning pain and a feeling of fulness in the epigastrium. Pain radiated to the lower retrosternal region and, when severe, would seem to shut off his breath. Belching and vomiting always relieved the discomfort. Roentgen examination of the stomach showed a diverticulum about 5 cm. in diameter arising from the posterior gastric wall about 4 cm. from the esophageal opening. There was also slight deformity of the duodenal cap with no evidence of crater or obstruction.

Because of the severity of the symptoms, an operation was performed. The surgeon found slight scarring of the duodenal cap but no indications of active duodenal ulcer. The diverticulum was resected. Histopathological study revealed normal mucosa, moderate diffuse lymphocytic infiltration of the submucosa, and moderate thinning of the muscularis. Four months later, a roentgenologic examination of the stomach showed slight irregularity of the stomach wall at the operative site and slight deformity of the duodenal cap similar to that seen preoperatively. A verbal report from the patient four years postoperatively was "no complaints since the operation."

Case 2.—A 58-year-old man reported to this clinic because of indigestion and recurring spells of burning pain in the epigastrium of 15 years' duration. Food and alkalies had given no relief. For one day, four weeks before admission, he passed black, tarry stools. Three days before admission, he began to pass copious tarry stools and complained of weakness. His appearance on admission indicated extensive blood loss.

Results of laboratory studies were as follows: hemoglobi level of 9 gm. per 100 cc.; red blood cell count, 2,960,000 and feces, tarry, with positive test for blood. The first roentgenologic examination of the stomach revealed no abnormalities. Roentgenograms of the abdomen made 24 hours late showed no residual barium. When the stomach examination was repeated several days later, a diverticulum, measuring 2½ cm. in diameter, was found arising from the posterior gastric wall 2 cm. from the esophageal orifice. Barium was still present in the diverticulum 18 hours later. The esophagus, stomach, and entire small bowel otherwise appeared normal. Roentgenologic examination of the colon showed no abnormalities.

Because of continued blood loss, an operation was advised. Two blood transfusions were given, and exploratory laparotomy was done. No lesions other than the diverticulum were found. The diverticulum was situated in the location described on the roentgenogram. Because of the technical difficulties encountered, the surgeon inverted the diverticulum and ligated blood vessels adjacent to the base.

Table 2.—*Descriptive Data in Twenty-One Cases of Gastri Diverticula*

	No. of Patients	Percentage
Location at cardia	20	95
Location at pylorus	1	5
Men	8	40
Women	13	60
Retention of barium	7 (out of 13)	54
Symptoms due to the diverticulum	6	28
Chief symptoms:		
Epigastric pain	6	..
Pain worse when recumbent	2	..
Pain worse after eating	3	..
Retrosternal radiation	3	..
Nausea and vomiting	2	..
Tarry stool	2	..
Vomiting of blood	1	..
Symptoms possibly due to diverticulum	3	14
Symptoms could not be attributed to diverticulum	12	57
Associated disease:		
Duodenal ulcer	7	..
Cholelithiasis	1	..
Recurrent appendicitis	1	..
Diverticulosis, colon	2	..
Diverticulosis, duodenum	1	..

Age, Yr.	No. of Patients	Size, Cm.	No. of Diverticul
20-29	3	1-1.9	1
30-39	3	2-2.9	11
40-49	4	3-3.9	5
50-59	7	4-4.9	3
60-69	3	5-5.9	1
70-79	1		

Table 3.—*Treatment in Twenty-One Cases of Gastric Diverticula*

Treatment	No. of Patients
Appendectomy	1
Cholecystectomy	1
Medical (or no treatment)	9
Associated duodenal ulcer	7
Surgical	3
Resected at cardia	(1)
Resected at pylorus	(1)
Inverted at cardia	(1)

We have no definite proof that the diverticulum was the source of the bleeding in this case, but no other bleeding source could be found. During the year that has elapsed since the operation, there has been no further hemorrhage.

CASE 3.—A 32-year-old man presented himself because of epigastric pain. Nine years before admission, a diagnosis of duodenal ulcer was made elsewhere. He responded fairly well to medical treatment until about three or four weeks before admission. Vomiting and severe epigastric pains made him seek admission to the hospital.

Roentgenologic examination of the stomach showed a marked deformity of the duodenal cap, with a small crater in the base of the cap and a round, sac-like projection, about 1½ cm. in size, arising from the prepyloric region of the stomach on the greater curvature side (fig. 4). The radiologic diagnosis was (1) duodenal ulcer with crater and (2) gastric diverticulum. We attributed his symptoms to the duodenal ulcer rather than to the diverticulum.

Operation was advised because of the presence of the duodenal ulcer and to confirm the presence of a gastric diverticulum. The distal three-fourths of the stomach was resected. The diverticulum was found as described in the roentgenologist's report. Histopathological study showed it to consist of all three layers found in a normal gastric wall with no evidence of mucosal change or aberrant pancreatic tissue.

COMMENT

A better understanding of this subject is possible if gastric diverticula are divided into groups on the basis of location.

1. *Diverticula Adjacent to Cardia.*—At least 75% of all gastric diverticula arise from the posterior wall 3 to 5 cm. from the entrance of the esophagus. They are usually asymptomatic and seldom give rise to complications.

2. *Diverticula Adjacent to Pylorus.*—About 15% of gastric diverticula occur near the pylorus. Diagnosis is difficult, and complications are not uncommon.

3. *Diverticula in Other Portions of Stomach.*—Diverticula in other parts of the stomach comprise a relatively small group. Diverticula are seldom found more than a few centimeters from the cardia or the pylorus. Diagnosis is difficult, and complications are common.

Each group may be considered almost a separate entity, with a remarkable uniformity of the clinical and roentgenological characteristics of all the diverticula in that group. This uniformity is especially striking in the diverticula that occur close to the cardia. Almost all of them arise from a specific portion of the posterior wall and, except for slight variation in size, are almost identical in appearance. We have been impressed by the failure of these diverticula to fill when the patient is examined in the upright position. Various authors state that filling will usually occur with the first swallow of barium. In our series only 4 of the 20 diverticula in the cardiac end of the stomach filled when the patient was standing; the rest failed to fill until the patient was placed in the supine or the Trendelenberg position. In over half of our cases, the left posterior oblique position, with the patient recumbent, was the only projection that permitted adequate roentgenographic demonstration of the pouch. Since most fluoroscopic examinations are done with the patient upright and the usual routine is to obtain roentgenograms in the posterioranterior and the right anterior oblique projections, many of these diverticula are not visualized. Pendergrass [11] made this observation in 1931.

At times, a diverticulum is not visualized because it is filled with retained food or secretions that prevent entrance of the barium. It is also possible for a diverticulum with a small orifice to remain distended with gas in spite of all efforts to fill it with barium. In this instance the gas pocket adjacent to the barium-filled stomach may be seen during fluoroscopy or on the roentgenogram. Thus, a diverticulum that filled readily at one examination may not be seen at a subsequent examination because it is filled with food or secretion, or it may appear as a gas shadow if trapped gas in the pouch prevents entrance of the barium.

The gradual increase in the discovery rate of gastric diverticula in our clinic is largely due to a renewed interest in diaphragmatic hernia. It became apparent soon after we started our diaphragmatic hernia studies that we were discovering gastric diverticula more frequently. Fluoroscopic examination in various positions, careful positioning of patients for roentgenograms, and frequent reexamination resulted in better visualization of defects in the cardiac end of the stomach. When it became apparent that diverticula adjacent to the cardia usually do not fill with barium when the patient is examined in the upright position, we began to repeat examination whenever the roentgenogram revealed any irregularity of or an unusual gas shadow near the cardiac region. We were able to make the diagnosis of diverticulum in six instances because roentgenograms, made as part of the first examination, aroused our suspicion and made us request reexamination.

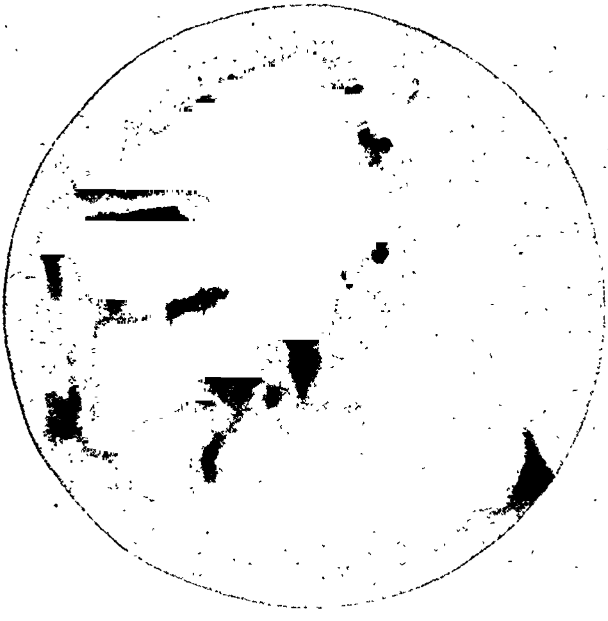

Fig. 4 (case 3).—Diverticulum 1½ cm. in diameter adjacent to the pylorus, proved surgically. All three layers of the stomach were present and there was no aberrant pancreatic tissue. (The photograph was retouched.)

Diverticula adjacent to the cardia may be difficult to fill with barium, but, once visualized, are not likely to be diagnostic problems. The characteristic location, smooth, rounded outline, and relatively narrow neck make recognition easy. Benign gastric ulcer seldom occurs in this portion of the stomach. When it does occur near the cardia, it may be confused with a diverticulum, but, usually, the ulcer defect can be recognized by the broad base, the failure to retain barium, and the absence of the smooth, rounded outline so typical of a diverticulum. Spasm and tenderness are frequently absent in gastric ulcers in this location. In some instances, it may be necessary to place the patient on a medical ulcer regimen and do repeated examinations to detect evidences of healing.

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[11] Pendergrass, E. P.: Diverticulum of Upper End of Stomach, S. Clin. North America 11:1493-1496 (Dec.) 1931.

An ulcerating carcinoma near the cardia may result in a pouch-like defect that bears a superficial resemblance to a diverticulum. The defect is almost always irregular, however, and a meniscus sign is frequently present. The neck is usually broad and irregular, and the mucosa adjacent to the orifice is not normal.

Varices in the cardiac end of the stomach are rarely a source of confusion. Defects due to varices are usually multiple, producing a general irregularity of the mucosal pattern in the cardiac region. There are almost always associated esophageal varicosities. A cascade type of stomach, a small diaphragmatic hernia or a long subdiaphragmatic esophagus, may simulate a diverticulum, but examination of the patient in various positions will usually make differentiation possible.

We have encountered a previously undescribed differentiation problem. Following operative repair of a hiatus hernia, a contraction ring of scar tissue may remain to constrict the stomach near the cardia. The resulting deformity may resemble a diverticulum, but the neck is apt to be rather broad and the esophagus can be seen to enter directly into the pouch.

Usually uncomplicated diverticula near the cardia cause no symptoms, but they may be responsible for baffling complaints. Six of the 20 patients in this series with diverticula near the cardia had symptoms that could be attributed to the abnormality. Relief of symptoms can generally be obtained by simple therapeutic measures. Frequently, the patient himself has discovered a procedure or a remedy that gives him relief. A bland, low roughage diet, antacids, and postural drainage of the sac have been advocated. Operation is indicated when any complication such as hemorrhage, severe pain, or perforation occurs.

Diverticula adjacent to the pylorus present more serious diagnostic difficulties. This is not a common location for a diverticulum, since only 15% of the reported diverticula were near the pylorus. Other pathological conditions, many of them serious, occur in this portion of the stomach much more frequently. It is not uncommon for these to produce defects that appear on the roentgenogram as a sac-like defect. Benign ulcer crater, perforated ulcer with accessory pocket formation, ulcerating carcinoma, and syphilis of the stomach present the most serious diagnostic problems. An additional difficulty arises from the fact that diverticula near the pylorus frequently contain islands of pancreatic tissue. This may alter the appearance enough to make recognition of the diverticulum exceedingly difficult. Diverticula in this location frequently present a confusing picture clinically and radiologically, and it is seldom possible to make a definite radiologic diagnosis of diverticulum of the pyloric end of the stomach. Consequences of misdiagnosis are so serious that every diagnosis of diverticulum in the distal end of the stomach should be confirmed by operation.

Diverticula rarely occur more than a few centimeters from the cardia or the pylorus. Only 8 to 10% of the reported diverticula were found in the pars media and the fundus of the stomach. Some of these were definitely due to perigastric adhesions, classified by some authors as acquired, true diverticula. Relatively few verified, uncomplicated diverticula, located some distance from the cardia or the pylorus, have been reported. Some of the unverified ones probably were false diverticula. Diagnosis is always difficult. It is practically impossible to make a radiologic diagnosis of diverticulum when the pouch i not located near the cardia or the pylorus. Gastroscopic examination or surgical exploration must be done to ascertain the true nature of the abnormality.

Clinicians have generally accepted the radiologic diagnosis of diverticulum of the colon or the duodenum, bu have been hesitant about accepting the diagnosis of diverticulum of the stomach. This may be partly due to the confusion that has resulted from the inclusion of diverticulum-like deformities, designated as false diverticula in some classifications. Definite criteria have been established that permit a high degree of accuracy in the radiologic diagnosis of gastric diverticulum. If only thos diverticula that fulfill these criteria, or are proved a operation or autopsy, are accepted, a more accurate analysis of the material will be possible. This will permi better evaluation of the accuracy of the roentgen diagnosis of gastric diverticulum and aid in establishing thi abnormality as a positive or negative factor in gastrointestinal complaints.

SUMMARY AND CONCLUSIONS

The literature concerning gastric diverticula is reviewed. The characteristics of gastric diverticula are discussed, with emphasis on roentgen diagnosis. Finding in 21 previously unreported cases of gastric diverticula seen at the Scott and White Clinic during the past 20 years are reviewed.

The following conclusions may be made:

1. Diagnosis is almost solely the responsibility of the radiologist.
2. Gastric diverticula show a remarkable tendency to localize at a specific point near the esophagogastric junction.
3. Many diverticula probably escape detection because of failure to fill with barium.

410 Lamar Dr. (Dr. Sommer).

Sudden Death in Infancy.—For a series of infants *observed to die* suddenly while in apparent good health, in whom the gross necropsy findings were inconclusive, histologic lesions are described consisting of inflammatory changes in the respiratory tract, vascular changes, focal cellular infiltrations in many organs, and reaction of the lymphatic tissues. These lesions are identical with those we have previously reported in babies *found dead* in whom mechanical suffocation is often alleged as the cause of death. The present study offers additional evidence for the previous conclusions; namely, that in infants, fulminating respiratory disease is the common cause of sudden, unexpected, and apparently unexplained *death.*—J. Werne, M.D., and I. Garrow, M.D., Sudden Apparently Unexplained Death During Infancy, *The American Journal of Pathology,* September-October, 1953.

PROGRAM FOR THE DETECTION OF COLONIC AND RECTAL POLYPS

Cesare Gianturco, M.D.
and
George A. Miller, M.D., Urbana, Ill.

The clinical significance of polyps of the large intestine has been discussed by many authors, and it is now generally accepted that many cancers develop from originally benign adenomatous polyps. For this reason, the recognition of these small growths is important for the prevention and cure of early malignant lesions of the large intestine. The recognition of colonic and rectal polyps [illegible] on objective methods of examination. Since many polyps are located in the terminal 25 cm. of the intestine, routine employment of the proctoscope by the general practitioner in adult patients has been strongly recommended.

In diagnostic centers, the responsibility is greater and the visual inspection of the accessible large bowel should be supplemented by x-ray examination of the colon. This may pose peculiar problems of organization and timing. These problems can be solved through the cooperation of the clinical departments involved. The program of polyp detection developed at the Carle Clinic involved the cooperation of the departments of internal medicine, surgery, proctology, and radiology. After several trials and errors, the following scheme was finally adopted:

1. Most adult patients undergoing a "general examination" receive a roentgen study of the colon by means of "high voltage radiography." 2. Adult patients without definite symptoms are examined by rectoscopy in addition to the roentgen study of the colon. This examination is a proctoscopy limited to the rectum and is performed in the x-ray department just prior to the x-ray work. Rectoscopy does not interfere with the x-ray examination of the colon and is essentially painless. 3. Adult patients complaining of bleeding from the rectum or of anal disease receive, in addition to the roentgen examination of the colon, proctosigmoidoscopy of the terminal 25 cm. in the department of proctology. Because of the insufflation of air necessary, proctosigmoidoscopic examinations are not done on the same day as the x-ray work.

TECHNIQUES OF EXAMINATION

High Voltage Radiography.—This technique is based on the observation that radiographic opacity changes with the voltage employed. A barium mixture that is fully opaque at fluoroscopy at 80 kv. usually consists of one volume of barium powder suspended in four volumes of water. When the colon is radiographed at 120 kv., this barium mixture becomes transparent and radiolucent objects, if present, are visible as negative shadows (see the figure).

The examination begins with fluoroscopy of the rectosigmoid area, during which the barium is allowed to reach the splenic flexure, carrying with it any gas or fecal material that may have been left in the lower intestine. During this phase of the examination, the patient is rotated from side to side to determine the best positions to prevent overlapping of the sigmoid loops. Fluoroscopy is then stopped and two 10 in. by 12 in. high voltage films of the sigmoid are exposed with the overhead tube with the patient in two different positions. This radiographic "uncoiling" of the sigmoid is important because in the oblique positions fluoroscopic visibility is poor, and a large percentage of colonic lesions are found in this area. The study of the sigmoid should be completed before the examination of the upper colon is proceeded with, because barium in the cecum or in the terminal ileum may obscure the sigmoid loops.

After the sigmoid has been studied and filmed, fluoroscopy is resumed, allowing the barium to fill the whole colon and to spill into the terminal ileum. The enema tube is withdrawn and the machine reset for high voltage radiography, one 14 in. by 17 in. film being made with the patient prone and another with the patient supine with the overhead tube. Spot films may be taken for both flexures and the cecal area. The purpose of all this positioning is to change the pattern of any gas or fecal material that may be present within the bowel and to furnish multiple checks on radiolucent shadows that may appear on the films. Such shadows may be caused by growths, by air bubbles, and by fecal material. Fecal material is mottled, irregular, and mobile. Air bubbles tend to be multiple, round, or oval and change shape and position in the various films. Growths may be of any shape, but their appearance and position remain essentially unchanged in the different views. If a persistent radiolucent shadow is found, the examination is repeated on another day for final confirmation of diagnosis.

In adequately prepared patients, high voltage radiography is capable of demonstrating growths as small as 2 mm. in diameter. Its sensitivity is greatest in the transverse, descending, and sigmoid colon. The technique is less satisfactory in the cecum and rectum because of the greater cross section of the bowel.

Rectoscopy.—Rectoscopy is preceded by a cleansing enema, the patients having received 2 oz. (60 cc.) of castor oil the night before. The proctoscope is introduced as far as possible (usually to a depth of from 15 to 18 cm.) into the rectum and sigmoid without insufflation of air with the patient in the prone Trendelenburg position. Occasionally one may reach the full depth of 25 cm. After the examination is completed and while the proctoscope is being withdrawn, the patient is asked to "take a deep breath and strain." This maneuver expels the air that has entered the rectum because of the position of the patient. The expulsion of this air is essential to avoid

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From the Section on Radiology, Carle Hospital Clinic.

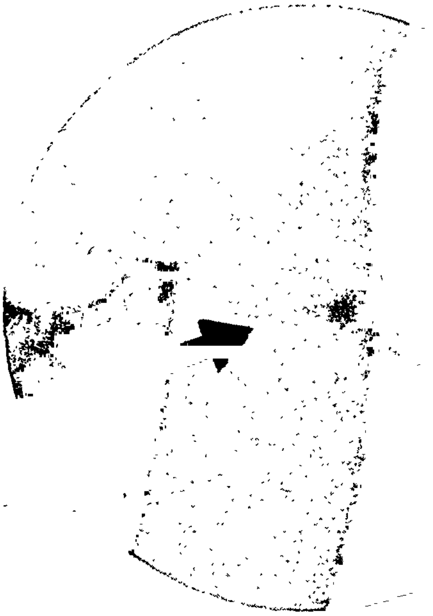
Read in the Symposium on Roentgen Examination of the Gastrointestinal Tract before the Section on Radiology at the 102nd Meeting of the American Medical Association, New York, June 3, 1953.

interference with the x-ray work that is to follow. Another enema is given after the rectoscopy.

Proctosigmoidoscopy.—Proctosigmoidoscopy requires insufflation of air and for this reason is done on the day before the roentgen study of the colon. The patients are prepared with enemas, and the technique is that ordinarily used by the proctologists.

RESULTS

The results (see the table) of this coordinated program may be stated as follows: High voltage radiography of the colon was used routinely during a period of 24 months. In the course of 3,351 examinations, 79 patients were found to have 92 polyps. Of these 79 patients, 21 complained of rectal bleeding. Nine polyps were found to be malignant.



Single polyp 1 cm. in diameter seen in the descending portion of the colon.

Results of Program for Polyp Detection

Total no. of high voltage x-ray examinations	3,351	
No. of patients with polyps	79	(2.3%)
No. of polyps found	92	
No. of polyps less than 1 cm. in diameter	38	
No. of polyps more than 1 cm. in diameter	54	
Location of polyps		
Right side of colon	8	
Sigmoid colon	44	
Descending colon	34	
Rectum	6	
No. of asymptomatic polyps	58	
No. of bleeding polyps	21	
No. of polyps removed surgically	43	
Adenomatous polyps	32	
Carcinomatous polyps	9	
Lipomas	1	
Lymphosarcomas	1	
Total no. of proctosigmoidoscopic examinations in presence of symptoms	500	
No. of patients with polyps	60	(12%)
No. of polyps found	69	
No. of carcinomatous polyps	5	
Total no. of rectoscopic examinations in absence of symptoms	1,000	
No. of patients with polyps	58	(5.8%)
No. of polyps	64	
Total no. of carcinomatous polyps in entire series	14	

One thousand rectoscopic examinations performe during a period of nine months in asymptomatic patient disclosed the presence of 64 polyps in 58 patients. On a average, these polyps were much smaller than those dis covered on roentgenograms and were fulgurated witho performance of biopsies. None of these polyps cause noticeable bleeding.

The available data on proctosigmoidoscopy cover period of 10 months and include 500 such examination Rogers reports the finding of 69 polyps in 60 patients. these 60 patients, 20 complained of bleeding. Five poly were malignant.

SUMMARY AND CONCLUSIONS

Our program of polyp detection revealed 14 cases early and curable carcinoma of the colon during t course of 4,851 visual and x-ray examinations. Polyps the colon and rectum are relatively frequent in adul Many of these growths are asymptomatic. Their mal nant potentialities make them clinically important. T routine use of the proctoscope by the general practitio should lead to the discovery of polyps in from 8 to 10 of adult patients. A coordinated program consisting visual examinations and sensitive roentgen studies is pr tical in diagnostic centers. This program should lead the discovery of polyps in from 10 to 15% of adult p tients regardless of symptoms.

602 W. University Ave. (Dr. Gianturco).

Clubfoot.—The child born with a clubfoot should be s immediately by the orthopedic surgeon, and unless there some contraindication, treatment should be started at o The nurse is instructed in careful, gentle manipulation of foot, correcting the varus only. As soon as the pediatric feels that it is safe to apply a plaster of Paris dressing should be done, usually at the age of 4 or 5 days. T dressing is allowed to remain on for a period of ten days, a which it is removed and a second plaster applied. The dr ing extends from the base of the toes to above the knee j (midthigh) with the knee in flexion, thus avoiding the sibility of kicking off the plaster by the child. The plaster dr ing at this stage corrects only the varus of the foot, no atte being made to correct the equinus, as this would tend produce a so-called rocker sole. After the second plaster been applied, considerable correction has usually taken pl so that it is possible to apply a Denis Browne splint to b feet, allowing the child free knee joint motion, and avoiding atrophy of the calf muscles. With the Denis Bro splint the child obtains considerable correction of the formity because of the activity of the lower extremities. With the adjustments of the Denis Browne splints it is possi to obtain full correction of the varus, after which the atten of the surgeon must be directed toward correction of equinus; following correction of the equinus, one must certain that the correction is maintained by the application proper footwear. X-ray examination of the foot to determ the relationship between the astragalus and the os calcis the anteroposterior plane is of considerable value in decid when to start the correction of the equinus. If the nor relationship between these two bones is not established bef an attempt is made to correct the equinus, a rocker sole develop.—H. C. Fett, M.D., Orthopedic Management of F Disorders, *Surgical Clinics of North America,* October, 1953.

RADIOLOGICAL EXAMINATION IN ORGANIC DISEASES OF SMALL INTESTINE

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and
Pablo L. Morales, M.D., New York

Organic disease of the small intestine, as well as functional disorders, may be the source of abdominal symptoms. X-ray examinations, when properly conducted, have proved to be of great value in the detection of these conditions. Occasional statements in the medical literature indicate that this fact is not widely recognized.

The records of 199 patients of the Presbyterian Hospital in New York with verified organic disease of the jejunum and ileum were analyzed. In 168 of them information suitable for the studies described was found. The purpose of this paper is to review the incidence of certain physical characteristics of these diseases that may be demonstrable by x-ray examination and to investigate the ability of the x-ray method to disclose evidence of these lesions as shown by the records in this series of cases. No attempt was made to compare or correlate the data from this series with those of other published series of cases. The diagnoses in this series were as follows: regional enteritis in 74 cases, tuberculous enteritis in 12, primary carcinoma in 23, lymphoma in 20; other malignant neoplasms in 8; carcinoid in 14, and benign tumors in 21.

SYMPTOMS

Organic disease of the small intestine may produce one or more of three symptoms. These symptoms are (1) bleeding, (2) diarrhea, or (3) abdominal pain.

Bleeding.—Table 1 gives the incidence of bleeding in this series. If the bleeding was sufficient to be recognized by the color of the stool, it was classed as gross. In some instances the record shows no evidence that tests for occult blood in the stool were done. In some cases an operation was done as an emergency before a complete clinical study was made. In others, the reason is not evident. Pallor, low hemoglobin and red blood cell counts, hypoproteinemia, and edema of the ankles were occasionally encountered.

TABLE 1.—*Symptoms of Lesions of Small Intestine*

	Regional Enteritis (74)*	Tuberculosis (12)	Carcinoma (23)	Lymphoma (20)	Other Malignant Neoplasms (8)	Carcinoid (14)	Benign Tumors (21)
Bleeding							
Gross..........	6	2	3	5	3	5	9
Occult..........	6	2	7	2	2	2	1
Not present....	23	2	2	4	0	1	2
Not determined	39	6	11	9	3	6	9
Diarrhea.........	44	3	0	5	0	1	1
Abdominal pain							
Periumbilical..	17	3	3	4	..	1	4
Right lower quadrant....	30	4	3	1	..	3	2
Unlocalized....	33	2	11	11	5	2	10
Localized in two areas....	10	..	..	..	..	..	..
No pain recorded.....	4	3	6	4	3	8	5

* The figures in the parentheses indicate the total number of cases in which the conditions were found.

Diarrhea.—Diarrhea (table 1) was recorded as an important symptom in more than half of the cases of regional enteritis and a quarter of those of tuberculous enteritis. It was uncommon with the neoplasms. It was a prominent symptom in four cases of infiltrating lymphosarcoma that involved the entire length of the small intestine.

TABLE 2.—*Method of Examination that Disclosed Disease of Small Intestine*

Method of Examination	Regional Enteritis (74)	Tuberculosis (12)	Carcinoma (23)	Lymphoma (20)	Other Malignant Neoplasms (8)	Carcinoid (14)	Benign Tumors (21)
Small intestine study...........	58	8	16	12	4	5	11
Miller-Abbott tube.............	6	..	5	1	2	2	4
Small intestinal enema..........	..	..	..	..	..	1	..
Examination of colon...........	..	..	..	..	..	1	..
No examination..	10	4	4	7	2	6	6

Abdominal Pain.—Abdominal pain may be localized in the periumbilical or right lower quadrant regions (table 1). In 10 cases of regional enteritis both locations were mentioned. Disease of the ileocecal region may cause epigastric pain or distress. In 74 of the 168 cases the pain was recorded as unlocalized and in 33 no pain was mentioned. The absence of pain was found in a larger proportion of the cases of carcinoid than in the other conditions.

METHODS OF EXAMINATION

Three methods of examination were used: (1) study of the small intestine, (2) use of the small intestinal enema, and (3) examination with the Miller-Abbott tube (table 2).

Study of Small Intestine.—The small intestine study is the routine method. The patient is given a suspension of barium sulfate by mouth after fasting overnight and a succession of films of the abdomen is made at half hourly intervals. For years we used 4 oz. (120 cc.) of barium sulfate in 5 oz. (150 cc.) of isotonic sodium chloride solution. This was satisfactory in most cases. Under certain conditions not yet well understood, flocculation occurs, the crystals of this salt seem to adhere to each other, and the mucosal surface of the intestine is not well shown (Frazer, French, and Thompson [1]). For this reason, in

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Read in the Symposium on Roentgen Examination of the Gastrointestinal Tract before the Section on Radiology at the 102nd Annual Meeting of the American Medical Association, New York, June 3, 1953.

[1] Frazer, A. C.; French, J. M., and Thompson, M. D.: Radiographic Studies Showing Induction of Segmentation Pattern in Small Intestine in Normal Human Subjects, Brit. J. Radiol. 22:123, 1949.

interference with the x-ray work that is to follow. Another enema is given after the rectoscopy.

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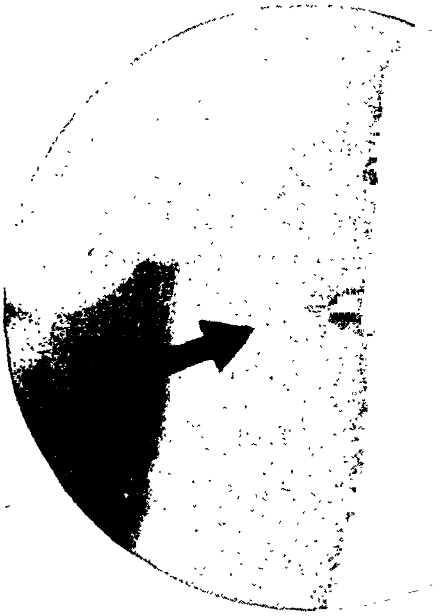

Single polyp 1 cm. in diameter seen in the descending portion of the colon.

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Our program of polyp detection revealed 14 cases early and curable carcinoma of the colon during th course of 4,851 visual and x-ray examinations. Polyps the colon and rectum are relatively frequent in adult Many of these growths are asymptomatic. Their malignant potentialities make them clinically important. Th routine use of the proctoscope by the general practition should lead to the discovery of polyps in from 8 to 10 of adult patients. A coordinated program consisting visual examinations and sensitive roentgen studies is practical in diagnostic centers. This program should lead t the discovery of polyps in from 10 to 15% of adult patients regardless of symptoms.

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Clubfoot.—The child born with a clubfoot should be see immediately by the orthopedic surgeon, and unless there some contraindication, treatment should be started at onc The nurse is instructed in careful, gentle manipulation of th foot, correcting the varus only. As soon as the pediatricia feels that it is safe to apply a plaster of Paris dressing th should be done, usually at the age of 4 or 5 days. Th dressing is allowed to remain on for a period of ten days, aft which it is removed and a second plaster applied. The dressing extends from the base of the toes to above the knee joi (midthigh) with the knee in flexion, thus avoiding the possibility of kicking off the plaster by the child. The plaster dressing at this stage corrects only the varus of the foot, no attem being made to correct the equinus, as this would tend t produce a so-called rocker sole. After the second plaster h been applied, considerable correction has usually taken plac so that it is possible to apply a Denis Browne splint to bot feet, allowing the child free knee joint motion, and als avoiding atrophy of the calf muscles. With the Denis Brown splint the child obtains considerable correction of the deformity because of the activity of the lower extremities. . . With the adjustments of the Denis Browne splints it is possibl to obtain full correction of the varus, after which the attentio of the surgeon must be directed toward correction of th equinus; following correction of the equinus, one must b certain that the correction is maintained by the application o proper footwear. X-ray examination of the foot to determin the relationship between the astragalus and the os calcis i the anteroposterior plane is of considerable value in decidin when to start the correction of the equinus. If the norma relationship between these two bones is not established befor an attempt is made to correct the equinus, a rocker sole wil develop.—H. C. Fett, M.D., Orthopedic Management of Foo Disorders, *Surgical Clinics of North America,* October, 1953

RADIOLOGICAL EXAMINATION IN ORGANIC DISEASES OF SMALL INTESTINE

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and
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Organic disease of the small intestine, as well as functional disorders, may be the source of abdominal symptoms. X-ray examinations, when properly conducted, have proved to be of great value in the detection of these conditions. Occasional statements in the medical literature indicate that this fact is not widely recognized.

The records of 199 patients of the Presbyterian Hospital in New York with verified organic disease of the jejunum and ileum were analyzed. In 168 of them information suitable for the studies described was found. The purpose of this paper is to review the incidence of certain physical characteristics of these diseases that may be demonstrable by x-ray examination and to investigate the ability of the x-ray method to disclose evidence of these lesions as shown by the records in this series of cases. No attempt was made to compare or correlate the data from this series with those of other published series of cases. The diagnoses in this series were as follows: regional enteritis in 74 cases, tuberculous enteritis in 12, primary carcinoma in 23, lymphoma in 20; other malignant neoplasms in 8; carcinoid in 14, and benign tumors in 21.

SYMPTOMS

Organic disease of the small intestine may produce one or more of three symptoms. These symptoms are (1) bleeding, (2) diarrhea, or (3) abdominal pain.

Bleeding.—Table 1 gives the incidence of bleeding in this series. If the bleeding was sufficient to be recognized by the color of the stool, it was classed as gross. In some instances the record shows no evidence that tests for occult blood in the stool were done. In some cases an operation was done as an emergency before a complete clinical study was made. In others, the reason is not evident. Pallor, low hemoglobin and red blood cell counts, hypoproteinemia, and edema of the ankles were occasionally encountered.

TABLE 1.—*Symptoms of Lesions of Small Intestine*

	Regional Enteritis (74)*	Tuberculosis (12)	Carcinoma (23)	Lymphoma (20)	Other Malignant Neoplasms (8)	Carcinoid (14)	Benign Tumors (21)
Bleeding							
Gross..........	6	2	3	5	3	5	9
Occult..........	6	2	7	2	2	2	1
Not present....	23	2	2	4	0	1	2
Not determined	39	6	11	9	3	6	9
Diarrhea.........	44	3	0	5	0	1	1
Abdominal pain							
Periumbilical..	17	3	3	4	..	1	4
Right lower quadrant....	30	4	3	1	..	3	2
Unlocalized....	33	2	11	11	5	2	10
Localized in two areas....	10	..	..	..	..	..	..
No pain recorded.....	4	3	6	4	3	8	5

* The figures in the parentheses indicate the total number of cases in which the conditions were found.

Diarrhea.—Diarrhea (table 1) was recorded as an important symptom in more than half of the cases of regional enteritis and a quarter of those of tuberculous enteritis. It was uncommon with the neoplasms. It was a prominent symptom in four cases of infiltrating lymphosarcoma that involved the entire length of the small intestine.

TABLE 2.—*Method of Examination that Disclosed Disease of Small Intestine*

Method of Examination	Regional Enteritis (74)	Tuberculosis (12)	Carcinoma (23)	Lymphoma (20)	Other Malignant Neoplasms (8)	Carcinoid (14)	Benign Tumors (21)
Small intestine study...........	58	8	16	12	4	5	11
Miller-Abbott tube.............	6	..	5	1	2	2	4
Small intestinal enema...........	..	..	..	..	..	1	..
Examination of colon...........	..	..	..	..	..	1	..
No examination..	10	4	4	7	2	6	6

Abdominal Pain.—Abdominal pain may be localized in the periumbilical or right lower quadrant regions (table 1). In 10 cases of regional enteritis both locations were mentioned. Disease of the ileocecal region may cause epigastric pain or distress. In 74 of the 168 cases the pain was recorded as unlocalized and in 33 no pain was mentioned. The absence of pain was found in a larger proportion of the cases of carcinoid than in the other conditions.

METHODS OF EXAMINATION

Three methods of examination were used: (1) study of the small intestine, (2) use of the small intestinal enema, and (3) examination with the Miller-Abbott tube (table 2).

Study of Small Intestine.—The small intestine study is the routine method. The patient is given a suspension of barium sulfate by mouth after fasting overnight and a succession of films of the abdomen is made at half hourly intervals. For years we used 4 oz. (120 cc.) of barium sulfate in 5 oz. (150 cc.) of isotonic sodium chloride solution. This was satisfactory in most cases. Under certain conditions not yet well understood, flocculation occurs, the crystals of this salt seem to adhere to each other, and the mucosal surface of the intestine is not well shown (Frazer, French, and Thompson [1]). For this reason, in

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Read in the Symposium on Roentgen Examination of the Gastrointestinal Tract before the Section on Radiology at the 102nd Annual Meeting of the American Medical Association, New York, June 3, 1953.

1. Frazer, A. C.; French, J. M., and Thompson, M. D.: Radiographic Studies Showing Induction of Segmentation Pattern in Small Intestine in Normal Human Subjects, Brit. J. Radiol. 22:123, 1949.

common with many radiologists, we have more recently been using a nonflocculating preparation of barium sulfate. In most of the cases in this series, however, the examinations were done with barium sulfate suspended in isotonic sodium chloride solution.

The films are processed as soon as they are made and are inspected immediately. Fluoroscopic examinations with spot films are done as indicated. Pressure films of the terminal ileum and cecum are an important routine part of every examination.

Small Intestine Enema.—The small intestine enema is accomplished by passing a tube into the proximal jejunum and injecting through the tube a barium sulfate preparation until the entire small intestine is filled, while the patient is on a fluoroscopic table equipped for spot film work. This method was advocated by Schatzki.[2] In our series we used it on only one patient (carcinoid). With a nonflocculating suspension of barium sulfate the intestinal walls can be satisfactorily outlined in the great majority of cases. This makes the small intestine enema necessary only after the routine study has failed to show an abnormality in cases where it seems that organic disease is probably present, e. g., when bleeding is present.

Miller-Abbott Tube.—The Miller-Abbott tube is used in ileus cases. It deflates the intestine, and, when its progress is arrested, a barium sulfate preparation is injected and spot films are made to establish the character of the obstruction. This tube may also be used in cases of intestinal bleeding, if the routine method has failed to demonstrate a lesion. As the tube passes down in the intestine, specimens of intestinal contents are withdrawn at intervals and are tested for occult blood. A barium sulfate preparation can be injected through the tube at any point in the procedure and the area at and beyond the tip studied on the fluoroscopic table with spot films.

The difference between the small intestine enema and the Miller-Abbott tube study, as the terms are used in this paper, is that in the former the opaque material is injected into the proximal jejunum until the entire small intestine is filled. In the latter the tube is allowed to pass down until it is arrested or until a positive blood test of the withdrawn intestinal contents is obtained, and then opaque material is injected.

TABLE 3.—*Location of Disease of Small Intestine*

	Regional Enteritis (74)*	Tuberculosis (12)	Carcinoma (23)	Lymphoma (20)	Other Malignant Neoplasms (8)	Carcinoid (14)	Benign Tumors (21)
Jejunum.........	10	1	16	8	4	1	6
Ileum............	63	4	4	11	5	10	16
Terminal ileum..	47	8	2	4	..	2	2
Ileocecal valve...	25	6	2	4	..	1	..

* In some cases multiple lesions were present in both jejunum and ileum.

In 39 of the 168 cases, no x-ray examination was done at the Presbyterian Hospital. In some instances the patient was admitted and operated on without complete study because of symptoms consistent with acute appendicitis or ileus. In other instances the patient had had an examination elsewhere recently.

LOCATION OF DISEASE

The sites of these lesions in the intestine are shown i table 3. The ease of detection of disease of the intestin by x-ray examination is in part related to its location Lesions in the upper loops of jejunum and in the termina ileum are more easily demonstrated than those in th lower loops of jejunum and in the middle loops of th ileum which usually lie low in the pelvis. In most person the terminal 10 to 15 cm. of the ileum rise out of the pelvi into the right iliac fossae and therefore can be easil examined. In persons with a cecum lying low in the pelvi the shadow of the terminal ileum may be separated fro the other loops with great difficulty and recorded only c spot films made with the patient rotated, with or witho pressure.

TABLE 4.—*Length of Lesion in Small Intestine*

Length, Cm.	Regional Enteritis (74)	Tuberculosis (12)	Carcinoma (23)	Lymphoma (20)	Other Malignant Neoplasms (8)	Carcinoid (14)	Benig Tumo (21)
Less than 2......	0	2	3	3	1	4	3
2-4..	3	1	11	7	4	8	14
5-6.......... ...	2	1	5	4	1	1	3
7-8	2	3	3	1	0	0	1
9-10	5	2	1	0	1	0	0
11-15.	10	2	0	0	1	0	0
16-25	19	0	0	1	0	1	0
25-50	22	0	0	0	0	0	0
More than 50....	11	1	0	4	0	0	0

Inflammations, lymphosarcomas, carcinoids, and be nign tumors were found much more frequently in th ileum than in the jejunum. Carcinomas were much mo frequent in the jejunum. The figures in table 3 were o tained from the descriptions of the specimens given in th pathologists' reports.

LENGTH OF LESIONS

Organic disease of the small intestine, in the gre majority of cases, produces a narrowing of the lumen. I malignant tumors and in some inflammations the muco is destroyed or at least the folds are obliterated. This pr duces an easily detected modification of the bariu shadow if the opaque material accurately outlines th wall and if the involved loop is not obscured by overlyi barium shadows.

The figures given in table 4 are taken from the p thologists' reports. The majority (90%) of the lesions regional enteritis in this series were more than 8 cm. length. More than half of the tuberculous lesions were le than 8 cm. in length. The majority of the neoplast lesions were small enough to produce defects in th barium shadow of 6 cm. or less. The four cases of lymph sarcoma with long lesions had the infiltrating type of th disease, which extended along the wall of the entire sma intestine.

NUMBER OF LESIONS

Lesions of the small intestine may be either single o multiple. If two lesions were separated by a length o normal intestinal wall, they were classed as multiple. I the 168 cases of this series, lesions were single in 128 an multiple in 44. Only 1 of the 23 carcinomas was multiple. Carcinoids, lymphosarcomas, certain other malignant tumors, and inflammatory lesions are not infrequently multiple. The number of cases in which single and multiple lesions were found is shown in table 5.

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[2] Schatzki, R.: Small Intestinal Enema, Am. J. Roentgenol. 50: 743, 1943.

In 4 of the 168 cases, two different diseases were demonstrated in the intestine by the pathologist. Two patients had benign polyps with a carcinoma, one had tuberculosis of the ileum in the midst of which was a small carcinoma, and a patient with a lipoma of the ileum also had nine, apparently asymptomatic, carcinoids.

RESULTS OF X-RAY EXAMINATION

In 133 of the 168 cases for which records were examined, one or more of the types of examination discussed were done at the Presbyterian Hospital. It was possible to show evidence of an abnormality in 121 of these 133 cases, or about 90% (table 6).

TABLE 5.—*Number of Cases of Single and Multiple Lesions Found in Diseases of Small Intestine*

No. of Lesions	Regional Enteritis (71)	Tuberculosis (12)	Carcinoma (23)	Lymphoma (20)	Other Malignant Neoplasms (8)	Carcinoid (14)	Benign Tumors (21)
Single..........	51	9	22	13	5	9	16
Multiple........	20	3	1	7	3	5	5

TABLE 6.—*Number of Cases of Various Diseases of Small Intestine in Which Abnormalities Were Revealed by Roentgenography*

	Regional Enteritis (64)	Tuberculosis (8)	Carcinoma (19)	Lymphoma (13)	Other Malignant Neoplasms (6)	Carcinoid (8)	Benign Tumors (15)	Totals (133)
Abnormality not revealed	3	1	2	0	1	1	4	12 (10%)
Abnormality revealed.....	61	7	17	13	5	7	11	121 (90%)

COMMENT

The x-ray examinations in these cases were done by a relatively large number of persons, of a wide range of age and experience. Many were done by residents under supervision. No attempt is made to estimate the accuracy of the interpretation of the abnormality in terms of the histological character of the disease. Usually, but not always, inflammations were distinguishable from neoplastic disease. Not infrequently different members of the staff of the radiological service disagreed as to the nature of the lesion. The mere fact of the demonstration of an abnormality in the small intestine, in addition to negative results of examinations of the stomach, duodenum, and large intestine, sufficed to solve the clinical problem. For example, in the presence of intestinal bleeding, evidence of an abnormality in the small intestine consistent with a neoplasm is sufficient to warrant a surgical investigation, as in the following case.

REPORT OF A CASE

A 56-year-old physician bled from the intestine for about five weeks. His hemoglobin level was 9 gm. per 100 cc. The stomach, duodenum, and colon were not abnormal on x-ray examination. A small intestine study disclosed evidence of a defect about 5 to 6 cm. in length in the barium shado a loop of ileum low in the pelvis. This could have been duced by a polypoid neoplasm of any type. After resection i was *found to be an inverted Meckel's* diverticulum with an ulcer at its tip.

The large number of films that are made in a routine small intestine study can be most accurately inspected by putting all of them side by side in chronological order on large viewing cabinets. In this way the eye of the observer can move quickly from one film to another and can most easily detect abnormalities in the barium shadow.

The benign tumors encountered in this series were 7 leiomyomas, 1 enterocystoma, 3 fibromas, 2 endometriomas, 2 adenomatous polyps, 1 hemangioma, and 5 lipomas.

A few miscellaneous conditions were encountered that were not included in this statistical study. They included simple ulcer of the ileum with cicatricial stenosis; irradiation damage; acquired diverticulum with ulceration; Meckel's diverticulum with ulcer; and inverted Meckel's diverticulum with ulcer (in the case described). We intend to study further certain details of the abnormalities produced by these lesions as shown by x-ray examination and to report them in a subsequent communication.

SUMMARY

A statistical study of 168 cases of organic lesions of the jejunum and ileum is presented. Bleeding was relatively uncommon in regional enteritis, while it occurred in one-third to one-half of the cases of intestinal tuberculosis and neoplastic lesions. Diarrhea was frequently encountered in the inflammations but was uncommon with the primary neoplasms. Abdominal pain was present in a large proportion of all of the cases, but it was not recorded in 8 of the 14 carcinoids.

All of the lesions found in this series of cases occurred much more frequently in the ileum except the carcinomas, which were localized more frequently in the jejunum. Four of the 168 patients had two different diseases in the small intestine at the same time. With the exception of the carcinomas, multiple lesions were found in from one-quarter to one-half of the cases, particularly carcinoids and lymphomas.

In 133 of the 168 cases x-ray examinations were made, and evidence of an abnormality consistent with an organic lesion was demonstrated in 121 (90%). The most practical method of x-ray examination is the small intestine study following the ingestion of a nonflocculating suspension of barium sulfate. The Miller-Abbott tube and the small intestine enema are useful in selected cases. These methods, when properly carried out, will disclose evidence of organic disease of the small intestine in a high percentage of cases.

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Diabetes Mellitus Among the Aged.—Available data indicate that the prevalence of diabetes mellitus increases as age increases. . . . Diabetes mellitus needs emphasis in programs concerned with the health of older people. Surveys and detection drives concerned with diabetes case-findings should attempt whenever possible to reach the older person.—C. L. Krag, M.D., The Prevalence of Diabetes Mellitus Among the Aged Tested in a Community Diabetes Program, *Journal of Gerontology*, July, 1953.

EMERGENCY CARE OF *SUSPECTED* MIDDLE MENINGEAL HEMORRHAGE

TECHNICAL SUGGESTIONS FOR THE GENERAL SURGEON

R. B. Raney, M.D., Aidan A. Raney, M.D.
and
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Hemorrhage from the middle meningeal artery is relatively uncommon as a complication of head injury, but, because of the large number of head injuries that occur, this lesion is encountered fairly often. When a patient with such a condition reaches a well-equipped neurosurgical center without delay, conditions are optimum for its recognition and treatment. Many patients, however, are necessarily admitted to hospitals having few if any neurosurgical facilities, and any procedure by which cerebral compression may be kept from increasing can well be lifesaving. In such a situation a general surgeon with standard equipment may ligate the external carotid artery on the side of the suspected hemorrhage, a measure that enables the patient to be maintained in status quo until adequate neurosurgical treatment can be instituted.

Therapeutic trepanation of the skull for relief of hemorrhage after head injury actually is an ancient procedure; however, successful surgery for extradural hemorrhage dates back only about 200 years to Hill,[1] a Scottish surgeon who operated on two patients. Bell,[2] in 1816, gave a hypothesis of the pathogenesis of extradural hematoma and described its experimental proof. Hutchinson,[3] in analyzing the clinical signs accompanying this lesion, drew attention to the dilatation of the pupil, especially on the homolateral side. Olsen [4] described early constriction of the homolateral pupil as a forerunner to dilatation. Jacobson,[5] in 1885, gave an extensive and accurate account of the clinical syndrome, which remains classical. More recently, many authors [6] have reported their experiences with extradural hemorrhage and have stressed t rapidity with which this syndrome may advance once is established. It is evident that even in skilled hands it a serious and urgent problem, and there remains a ne for emphasizing technical methods for the manageme of these cases, especially in circumstances that may ari in an emergency.

The problem of management resolves itself into, fir recognition of the probable lesion and, second, relief cerebral compression before irreparable damage tak place. When a patient with a head injury who has do well for a few hours begins to show signs of increas intracranial pressure, drowsiness, and bradycardia, t possibility of middle meningeal hemorrhage must be co sidered. The most reliable localizing signs are pupilla changes, which almost invariably are on the side of t hemorrhaging vessel. Early pupillary constriction is cor mon; dilatation occurs later. A fracture through t middle meningeal groove, if present, is also a reliab localizing sign. Hemiparesis, either contralateral homolateral, may be present.

Ligation of the external carotid artery on the appr priate side does no harm, and if hemorrhage from t middle meningeal artery actually is taking place, th procedure can be expected to stop further hemorrhag Severe cerebral compression then may be relieved by simple trephine opening and suction. The patient then ca be moved a considerable distance, if necessary, in relati safety to facilities where definitive management can offered.

TECHNIQUE OF LIGATION

The relatively simple technique of ligation of the e ternal carotid artery is illustrated in the figure. This ac junct to treatment is not new, having been described b others [7]; however, it seems worthy of reemphasis becaus of its practical value. By means of a skin-line incision the level of the upper border of the thyroid cartilage, th medial border of the sternocleidomastoid muscle is ex posed and retracted to give access to the carotid sheat Palpation for the common carotid leads rapidly to i recognition; it is isolated by blunt dissection. The vesse is then easily followed upward to the bifurcation. Th positive recognition of the external carotid is made by th following criteria [8]: first, it is medial to the internal ca rotid immediately above the bifurcation and, second, i alone gives off branches in the neck. Once it is recognized a silk ligature may easily be passed around it and tied.

In order to stress this feature of treatment, a case i reported below in which such a ligation was carried ou with highly satisfactory results. It should be emphasized that ligation accomplished two important steps in the treatment: (1) the control of further hemorrhage, and (2) the evacuation of the clot and relief of compression

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Read before the Section on Nervous and Mental Diseases at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

[1] Hill, J.: Cases in Surgery, Particularly of Cancers, and Disorders of the Head from Violence, with Observations, Edinburgh, John Balfour, 1772, p. 94.

[2] Bell, C.: Surgical Observations: Being a Quarterly Report of Cases in Surgery, Treated in the Middlesex Hospital, in the Cancer Establishment, and in Private Practice, London, Longman, Hurst, Rees, Arnie and Brown, 1816, pp. 466-467.

[3] Hutchinson, J.: London Hosp. Rep. **4**: 28, 1867-1868.

[4] Olsen, C. W.: Paralysis of Third Cranial Nerve Accompanying Increased Intracranial Pressure: Clinico-Pathologic Report of Case, Bull. Los Angeles Neurol. Soc. **4**: 123-127, 1939.

[5] Jacobson, W. H. A.: On Middle Meningeal Hemorrhage, Guy's Hosp. Rep., 1884-5, Series 3, **28**: 147-308, 1886.

[6] (*a*) Gurdjian, E. S., and Webster, J. E.: Extradural Hemorrhage: Collective Review of Literature and Report of 30 Cases of Middle Meningeal Hemorrhage and 4 Cases of Dural Sinus Hemorrhage Treated Surgically, Surg., Gynec. & Obst. **75**: 206-220, 1942. (*b*) LeCount, E. R., and Apfelbach, C. W.: Pathologic Anatomy of Traumatic Fractures of Cranial Bones and Concomitant Brain Injuries, J. A. M. A. **74**: 501-511, (Feb. 21) 1920. (*c*) Verbrugghen, A.: Extradural Hemorrhage, Am. J. Surg. **37**: 275-290, 1937. (*d*) Munro, D., and Maltby, G. L.: Extradural Hemorrhage: Study of 44 Cases, Ann. Surg. **113**: 192-203, 1941. (*e*) Vance, B. M.: Fractures of Skull: Complications and Causes of Death: Review of 512 Necropsies and of 61 Cases Studied Clinically, Arch. Surg. **14**: 1023-1092, 1927. (*f*) McKenzie, K. G.: Extradural Hemorrhage, Brit. J. Surg. **26**: 346-365, 1938.

[7] King, J. E. J.: Hematomas: Extradural, Subdural, and Subcortical, Am. J. Surg. **59**: 248-271, 1943. Verbruggen.[6c] Watkins, A. B. K.: Middle Meningeal H[illegible] Lancet **1**: 646-647, 1923.

[8] Barn[illegible] Mellinger, W. J.: Surgical Anatomy of Head and Neck, ed. 2[illegible] 'illiams & Wilkins Company, 1940, p. 68.

without the need for hemostatic packing. The patient then could be safely transferred to another hospital adequately equipped for major intracranial surgery.

REPORT OF A CASE

The patient, a carpenter 54 years old, was struck on the right side of the head by a timber. He felt that the injury was minor and wanted to continue working. His superintendent, however, insisted that he be examined. Roentgenograms of the skull revealed a linear fracture in the right parietal region. Because of the fracture the patient was sent to a local hospital for observation. The following morning he was found to be slightly hemiparetic on the left side; he complained of headache and possibly was a little drowsy. A few hours later he lapsed into coma. His respirations became embarrassed. He was cold, clammy, and cyanotic. It was at this stage that we first had the opportunity of examining the patient. His right pupil was widely dilated. He failed to respond to stimulation. His pulse had left the bradycardia stage and was irregular and rapid.

Unfortunately, the patient was in a hospital that was not equipped for intracranial surgery, and it was obvious that he could not tolerate the delay necessary for transfer to a better-equipped hospital. Consequently, the right external carotid artery was ligated in the neck with a small emergency dissecting set to stop further hemorrhage. An emergency craniotomy was then done with an old hand trephine that was available. An enormous extradural hemorrhage was encountered, which was partially evacuated with a tonsil suction apparatus, reducing the pressure. The patient's condition immediately improved. The carotid ligation had stopped bleeding, so a small pack was placed in the wound and the head was bandaged. With an intratracheal catheter in situ and the patient's condition improved, he was transferred safely to another hospital, where the operation was completed with the aid of adequate neurosurgical equipment and personnel.

Prior to closure of the wound, the brain and subarachnoid space were reexpanded by saline solution introduced into the lumbar spinal canal. After these procedures the patient responded promptly, and his subsequent convalescence was uneventful despite the fact that at its maximum depression the dura had been separated 5 cm. from the inner table of the skull.

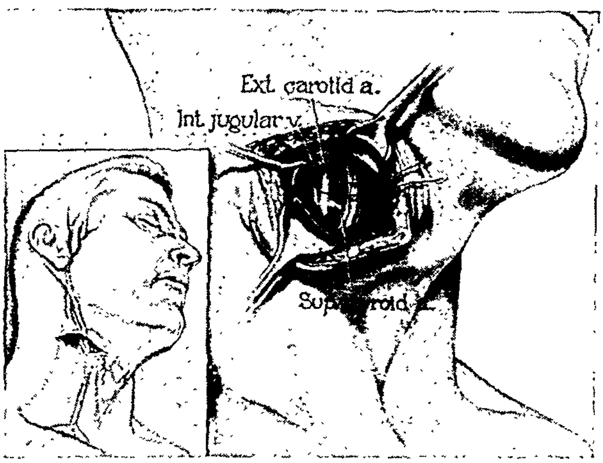
COMMENT

The numerous published reports and the experiences of many neurosurgeons attest to the therapeutic problems attendant on this mechanically rather simple but frequently disastrous lesion. In this case we feel that the ligation of the external carotid artery played a major role in the successful outcome.

The typical syndrome of progressive depression of the level of consciousness, with associated homolateral third nerve changes and contralateral or homolateral paralysis of the extremities, whether or not complete in all its features, demands the arrest of further hemorrhage and evacuation of the hematoma. The middle meningeal artery is the commonest source of the bleeding in the most serious and rapidly progressive of these lesions.[9] Skull roentgenograms often reveal a fracture that traverses the groove of the middle meningeal artery. Ligation of the corresponding external carotid artery in the neck offers a direct and simple means to control bleeding. The ligation should always be on the side of the pupil showing pathological change, on the side of the fracture, or both. If there is any doubt about the pupillary sign, both external carotid arteries may be ligated. Their ligation will not cause material harm, whereas failure to ligate the external carotid artery on the side of the hemorrhaging meningeal artery will almost always lead rapidly to a fatal issue. By stopping the hemorrhage in this manner, time is provided for further study and for transfer of the patient to a place where there are more ideal conditions for removal of existing hematoma by craniotomy.

SUMMARY

Hemorrhage from the middle meningeal artery, while occurring in a small percentage of head injuries, is encountered with relative frequency because of the large number of head injuries. The syndrome of middle meningeal hemorrhage, once established, usually continues to develop rapidly to a fatal issue unless relieved. Because of the widespread occurrence of head injuries and the urgency for immediate admission of the patient to the nearest hospital, these lesions often are found where conditions are not ideally suited for neurosurgical intervention. Ligation of the external carotid artery in the neck on the side of the hemorrhage is a procedure worthy of consideration under such conditions. It can provide more time for transferring the patient to a location better suited for definitive neurosurgical care and often may be a lifesaving measure.



Ligation of external carotid artery.

1136 W. Sixth St.

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9. Gurdjian and Webster.[6a] LeCount and Apfelbach.[6b] Moody, W. B.: Traumatic Fracture of the Cranial Bones, J. A. M. A. 74: 511 (Feb. 21) 1920. Raaf, J.: Massive Extradural Hematoma, Am. J. Surg. 76: 567-577, 1948.

Airplane Travel and Diseases of the Lungs.—Patients with mild asthma may safely fly. However, a patient who is subject to frequent attacks should not fly. . . . Pneumothorax is a definite contraindication to airplane travel. . . . Going up in an airplane causes expansion of air in the pleural space. . . . Flying is especially hazardous for those who have pneumothorax complicated by adhesions, as they may break, causing hemorrhage, or they may pull hard enough to rip the surface of the lung. Additional air may then enter the pneumothorax and dangerously increase its size. . . . Patients who have recently hemorrhaged from the lungs should postpone flying, because of the danger of reopening the blood vessel. Pulmonary cavities are another hazard. They contain air which expands in flight. When air can escape from the cavity the danger is minimal. However, if bronchial obstruction is present, air is trapped in the cavity and, in expanding, may tear the walls of the cavity or injure a blood vessel with subsequent serious bleeding.—S. Kreinin, M.D., Which Patients May Fly, *GP (Journal American Academy of General Practice)*, August, 1953.

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and
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Hemorrhage from the middle meningeal artery is relatively uncommon as a complication of head injury, but, because of the large number of head injuries that occur, this lesion is encountered fairly often. When a patient with such a condition reaches a well-equipped neurosurgical center without delay, conditions are optimum for its recognition and treatment. Many patients, however, are necessarily admitted to hospitals having few if any neurosurgical facilities, and any procedure by which cerebral compression may be kept from increasing can well be lifesaving. In such a situation a general surgeon with standard equipment may ligate the external carotid artery on the side of the suspected hemorrhage, a measure that enables the patient to be maintained in status quo until adequate neurosurgical treatment can be instituted.

Therapeutic trepanation of the skull for relief of hemorrhage after head injury actually is an ancient procedure; however, successful surgery for extradural hemorrhage dates back only about 200 years to Hill,[1] a Scottish surgeon who operated on two patients. Bell,[2] in 1816, gave a hypothesis of the pathogenesis of extradural hematoma and described its experimental proof. Hutchinson,[3] in analyzing the clinical signs accompanying this lesion, drew attention to the dilatation of the pupil, especially on the homolateral side. Olsen [4] described early constriction of the homolateral pupil as a forerunner to dilatation. Jacobson,[5] in 1885, gave an extensive and accurate account of the clinical syndrome, which remains classical. More recently, many authors [6] have reported their experiences with extradural hemorrhage and have stressed t rapidity with which this syndrome may advance once is established. It is evident that even in skilled hands it a serious and urgent problem, and there remains a ne for emphasizing technical methods for the manageme of these cases, especially in circumstances that may ari in an emergency.

The problem of management resolves itself into, fir recognition of the probable lesion and, second, relief cerebral compression before irreparable damage tak place. When a patient with a head injury who has do well for a few hours begins to show signs of increas intracranial pressure, drowsiness, and bradycardia, t possibility of middle meningeal hemorrhage must be co sidered. The most reliable localizing signs are pupilla changes, which almost invariably are on the side of t hemorrhaging vessel. Early pupillary constriction is cor mon; dilatation occurs later. A fracture through t middle meningeal groove, if present, is also a reliab localizing sign. Hemiparesis, either contralateral homolateral, may be present.

Ligation of the external carotid artery on the appr priate side does no harm, and if hemorrhage from t middle meningeal artery actually is taking place, th procedure can be expected to stop further hemorrhag Severe cerebral compression then may be relieved by simple trephine opening and suction. The patient then ca be moved a considerable distance, if necessary, in relati safety to facilities where definitive management can b offered.

TECHNIQUE OF LIGATION

The relatively simple technique of ligation of the ex ternal carotid artery is illustrated in the figure. This ac junct to treatment is not new, having been described b others [7]; however, it seems worthy of reemphasis becaus of its practical value. By means of a skin-line incision a the level of the upper border of the thyroid cartilage, th medial border of the sternocleidomastoid muscle is ex posed and retracted to give access to the carotid sheath Palpation for the common carotid leads rapidly to it recognition; it is isolated by blunt dissection. The vesse is then easily followed upward to the bifurcation. Th positive recognition of the external carotid is made by th following criteria [8]: first, it is medial to the internal ca rotid immediately above the bifurcation and, second, i alone gives off branches in the neck. Once it is recognized a silk ligature may easily be passed around it and tied.

In order to stress this feature of treatment, a case is reported below in which such a ligation was carried out with highly satisfactory results. It should be emphasized that ligation accomplished two important steps in the treatment: (1) the control of further hemorrhage, and (2) the evacuation of the clot and relief of compression

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Read before the Section on Nervous and Mental Diseases at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

[1] Hill, J.: Cases in Surgery, Particularly of Cancers, and Disorders of the Head from Violence, with Observations, Edinburgh, John Balfour, 1772, p. 94.

[2] Bell, C.: Surgical Observations: Being a Quarterly Report of Cases in Surgery, Treated in the Middlesex Hospital, in the Cancer Establishment, and in Private Practice, London, Longman, Hurst, Rees, Arnie and Brown, 1816, pp. 466-467.

[3] Hutchinson, J.: London Hosp. Rep. **4**: 28, 1867-1868.

[4] Olsen, C. W.: Paralysis of Third Cranial Nerve Accompanying Increased Intracranial Pressure: Clinico-Pathologic Report of Case, Bull. Los Angeles Neurol. Soc. **4**: 123-127, 1939.

[5] Jacobson, W. H. A.: On Middle Meningeal Hemorrhage, Guy's Hosp. Rep., 1884-5, Series 3, **28**: 147-308, 1886.

[6] (*a*) Gurdjian, E. S., and Webster, J. E.: Extradural Hemorrhage: Collective Review of Literature and Report of 30 Cases of Middle Meningeal Hemorrhage and 4 Cases of Dural Sinus Hemorrhage Treated Surgically, Surg., Gynec. & Obst. **75**: 206-220, 1942. (*b*) LeCount, E. R., and Apfelbach, C. W.: Pathologic Anatomy of Traumatic Fractures of Cranial Bones and Concomitant Brain Injuries, J. A. M. A. **74**: 501-511, (Feb. 21) 1920. (*c*) Verbrugghen, A.: Extradural Hemorrhage, Am. J. Surg. **37**: 275-290, 1937. (*d*) Munro, D., and Maltby, G. L.: Extradural Hemorrhage: Study of 44 Cases, Ann. Surg. **113**: 192-203, 1941. (*e*) Vance, B. M.: Fractures of Skull: Complications and Causes of Death: Review of 512 Necropsies and of 61 Cases Studied Clinically, Arch. Surg. **14**: 1023-1092, 1927. (*f*) McKenzie, K. G.: Extradural Hemorrhage, Brit. J. Surg. **26**: 346-365, 1938.

[7] King, J. E. J.: Hematomas: Extradural, Subdural, and Subcortical, Am. J. Surg. **59**: 248-271, 1943. Verbruggen.[6c] Watkins, A. B. K.: Middle Meningeal Hemorrhage, Lancet **1**: 646-647, 1923.

[8] Barnhill, J. F., and Mellinger, W. J.: Surgical Anatomy of Head and Neck, ed. 2, Baltimore, Williams & Wilkins Company, 1940, p. 68.

without the need for hemostatic packing. The patient then could be safely transferred to another hospital adequately equipped for major intracranial surgery.

REPORT OF A CASE

The patient, a carpenter 54 years old, was struck on the right side of the head by a timber. He felt that the injury was minor and wanted to continue working. His superintendent, however, insisted that he be examined. Roentgenograms of the skull revealed a linear fracture in the right parietal region. Because of the fracture the patient was sent to a local hospital for observation. The following morning he was found to be slightly hemiparetic on the left side; he complained of headache and possibly was a little drowsy. A few hours later he lapsed into coma. His respirations became embarrassed. He was cold, clammy, and cyanotic. It was at this stage that we first had the opportunity of examining the patient. His right pupil was widely dilated. He failed to respond to stimulation. His pulse had left the bradycardia stage and was irregular and rapid.

Unfortunately, the patient was in a hospital that was not equipped for intracranial surgery, and it was obvious that he could not tolerate the delay necessary for transfer to a better-equipped hospital. Consequently, the right external carotid artery was ligated in the neck with a small emergency dissecting set to stop further hemorrhage. An emergency craniotomy was then done with an old hand trephine that was available. An enormous extradural hemorrhage was encountered, which was partially evacuated with a tonsil suction apparatus, reducing the pressure. The patient's condition immediately improved. The carotid ligation had stopped bleeding, so a small pack was placed in the wound and the head was bandaged. With an intratracheal catheter in situ and the patient's condition improved, he was transferred safely to another hospital, where the operation was completed with the aid of adequate neurosurgical equipment and personnel.

Prior to closure of the wound, the brain and subarachnoid space were reexpanded by saline solution introduced into the lumbar spinal canal. After these procedures the patient responded promptly, and his subsequent convalescence was uneventful despite the fact that at its maximum depression the dura had been separated 5 cm. from the inner table of the skull.

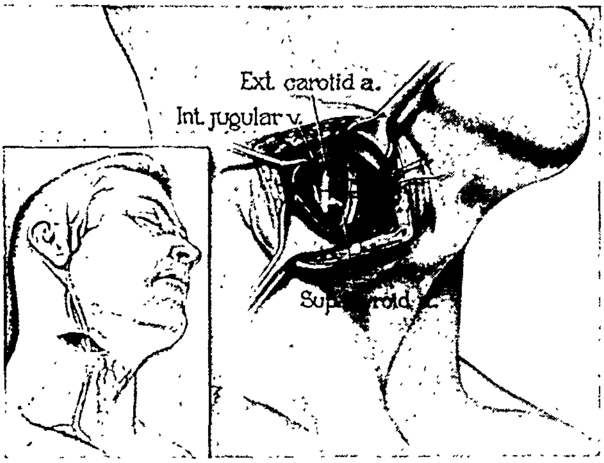
COMMENT

The numerous published reports and the experiences of many neurosurgeons attest to the therapeutic problems attendant on this mechanically rather simple but frequently disastrous lesion. In this case we feel that the ligation of the external carotid artery played a major role in the successful outcome.

The typical syndrome of progressive depression of the level of consciousness, with associated homolateral third nerve changes and contralateral or homolateral paralysis of the extremities, whether or not complete in all its features, demands the arrest of further hemorrhage and evacuation of the hematoma. The middle meningeal artery is the commonest source of the bleeding in the most serious and rapidly progressive of these lesions.[9] Skull roentgenograms often reveal a fracture that traverses the groove of the middle meningeal artery. Ligation of the corresponding external carotid artery in the neck offers a direct and simple means to control bleeding. The ligation should always be on the side of the pupil showing pathological change, on the side of the fracture, or both. If there is any doubt about the pupillary sign, both external carotid arteries may be ligated. Their ligation will not cause material harm, whereas failure to ligate the external carotid artery on the side of the hemorrhaging meningeal artery will almost always lead rapidly to a fatal issue. By stopping the hemorrhage in this manner, time is provided for further study and for transfer of the patient to a place where there are more ideal conditions for removal of existing hematoma by craniotomy.

SUMMARY

Hemorrhage from the middle meningeal artery, while occurring in a small percentage of head injuries, is encountered with relative frequency because of the large number of head injuries. The syndrome of middle meningeal hemorrhage, once established, usually continues to develop rapidly to a fatal issue unless relieved. Because of the widespread occurrence of head injuries and the urgency for immediate admission of the patient to the nearest hospital, these lesions often are found where conditions are not ideally suited for neurosurgical intervention. Ligation of the external carotid artery in the neck on the side of the hemorrhage is a procedure worthy of consideration under such conditions. It can provide more time for transferring the patient to a location better suited for definitive neurosurgical care and often may be a lifesaving measure.



Ligation of external carotid artery.

1136 W. Sixth St.

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9. Gurdjian and Webster.[9a] LeCount and Apfelbach.[9b] Moody, W. B.: Traumatic Fracture of the Cranial Bones, J. A. M. A. 74:511 (Feb. 21) 1920. Raaf, J.: Massive Extradural Hematoma, Am. J. Surg. 76:567-577, 1948.

Airplane Travel and Diseases of the Lungs.—Patients with mild asthma may safely fly. However, a patient who is subject to frequent attacks should not fly. . . . Pneumothorax is a definite contraindication to airplane travel. . . . Going up in an airplane causes expansion of air in the pleural space. . . . Flying is especially hazardous for those who have pneumothorax complicated by adhesions, as they may break, causing hemorrhage, or they may pull hard enough to rip the surface of the lung. Additional air may then enter the pneumothorax and dangerously increase its size. . . . Patients who have recently hemorrhaged from the lungs should postpone flying, because of the danger of reopening the blood vessel. Pulmonary cavities are another hazard. They contain air which expands in flight. When air can escape from the cavity the danger is minimal. However, if bronchial obstruction is present, air is trapped in the cavity and, in expanding, may tear the walls of the cavity or injure a blood vessel with subsequent serious bleeding.—S. Kreinin, M.D., Which Patients May Fly, *GP (Journal American Academy of General Practice)*, August, 1953.

CARCINOMA OF THE TESTES

Col. James C. Kimbrough (MC), U. S. Army
and
Major Ferris E. Cook Jr. (MC), U. S. Air Force

Although almost all tumors of the testes are malignant, such tumors are rare. These tumors, however, present a particularly serious problem in the armed forces inasmuch as they are found chiefly in young adults from 20 to 40 years of age, with the peak occurrence in the late 20's. Few cases have been reported in the very young or in the aged. Since the incidence in the armed forces personnel is about 1 in 10,000, the mobilization of more than 10 million men in the early 1940's gave physicians an opportunity to treat and observe a large number of patients with cancer of the testis. In 1946, Friedman and Moore[1] reported 922 cases—a startling number—from the Armed Forces Institute of Pathology.

ETIOLOGY

As in cancer of other organs, the etiology of cancer of the testis is obscure. Since these tumors occur at the period of greatest sexual vigor, it is probable that such activity and the increase in testicular hormones may be factors. The possible importance of testicular hormones in this role is further demonstrated by the favorable influence of castration on late metastases in some patients. There is no evidence that trauma has etiological importance. It has been estimated that cancer occurs 20 to 40 times oftener in undescended testes than in the normal organ. These statistics are difficult to evaluate and often unconvincing.

PATHOLOGY

There has been considerable confusion in the classification of tumors of the testes. The following classification of structural types and the percentage of occurrence given by Friedman and Moore[1] is simple and understandable and gives the physician a better working basis than does the more elaborate nomenclature. They estimate that 35% are seminomas, 35% teratocarcinomas, 19% embryonal carcinomas, 7% teratomas, 3% miscellaneous tumors, and 1% interstitial tumors.

Malignant tumors of the testis arise from totipotent sex cells. The monodermal forms of these growths represent one-sided developments of tridermal teratomas. The tumors are often mixed in type; in the event that one type predominates, the minor elements may not be found on pathological examination. A seminoma that appears monodermal may contain subversive elements of embryonal carcinoma, chorioepithelioma, or other highly malignant forms. These unrecognized elements not infrequently metastasize independently of the seminoma.

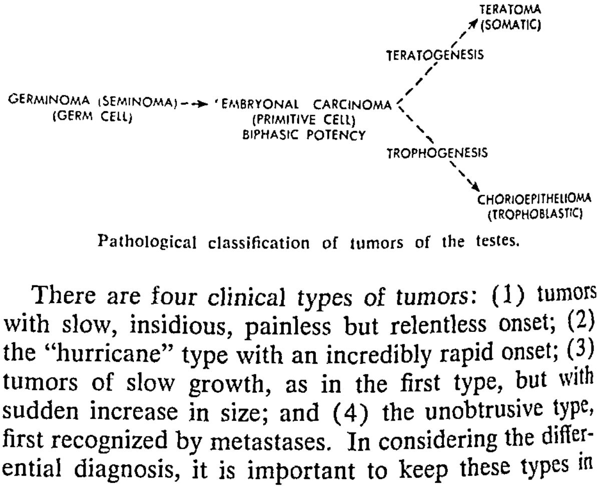
So far as treatment is concerned, the structural patterns may be classified as follows: 1. The seminomas are radiosensitive. 2. The other types are radioresistant, including embryonal carcinomas, teratomas, teratocarcinomas, chorioepitheliomas, and the miscellaneous tumors. Seminoma (germinoma) may be the precursor of embryonal carcinoma, teratocarcinoma, and chorioepithelioma, and may metastasize as these types[1] (see figure).

METASTASES

Tumors of the testes metastasize first and most frequently by the lymphatics but may metastasize by the blood stream. Early metastases by the lymphatics will be unilateral and located in the lumbar lymph nodes situated between the bifurcation of the common iliac arteries and the renal pedicle. The disease is curable by radical resection of these nodes, provided the operative treatment is accomplished before generalized dissemination has occurred. Later in the course of the disease, generalized dissemination to the lungs and other organs takes place by the blood stream and lymphatics.

SYMPTOMS

The initial symptom is almost always a painless swelling of the testis accompanied by a sense of weight in the scrotum. Insignificant trauma may bring the patient's attention to the mass and may often account for the listing of trauma as an etiological factor.


TERATOMA (SOMATIC)
TERATOGENESIS
GERMINOMA (SEMINOMA) (GERM CELL)
EMBRYONAL CARCINOMA (PRIMITIVE CELL) BIPHASIC POTENCY
TROPHOGENESIS
CHORIOEPITHELIOMA (TROPHOBLASTIC)

Pathological classification of tumors of the testes.

There are four clinical types of tumors: (1) tumors with slow, insidious, painless but relentless onset; (2) the "hurricane" type with an incredibly rapid onset; (3) tumors of slow growth, as in the first type, but with sudden increase in size; and (4) the unobtrusive type, first recognized by metastases. In considering the differential diagnosis, it is important to keep these types in mind.

Local tenderness is absent or relatively slight. Loss of weight, cough, pain in the abdomen and back, and gastrointestinal symptoms due to metastases may occur late.

DIAGNOSIS

Early diagnosis is one of the most important factors in the prognosis of tumor of the testis. The differential diagnosis is not difficult. Every mass in the scrotum should be considered malignant until proved otherwise. Bimanual examination is imperative. For painful lesions, general anesthesia may be necessary in order to properly evaluate the condition of the scrotal contents. Epididymitis, thick-walled hydroceles, and hematoceles are the most difficult to differentiate. Hydroceles that have been tapped frequently are very confusing. Careful estimation of the size, consistency, contour, and weight of

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[1] Friedman, N. B., and Moore, R. A.: Tumors of Testis: Report on 922 Cases, Mil. Surgeon 99:573, 1946.

the testis should be made. On bimanual palpation a malignant tumor of the testis feels heavier than other masses. The clinical recognition is a matter of exclusion. Early diagnosis is lifesaving. The Aschheim-Zondek hormone test offers little in establishing an early diagnosis and may even be confusing because the usually negative response may give a sense of false security and cause loss of valuable time in beginning proper treatment. It is important that the diagnosis be established and treatment be initiated before metastasis takes place. In Lewis'[2] series, metastatic lesions were present in 43% of the patients on admission to the hospital, and metastases developed in 28% soon after admission—a total of 71% of cases with metastases caused by delay in diagnosis and treatment.

ANALYSIS OF CASES

In the six years ending June 30, 1952, 106 patients with testicular tumors were admitted to Walter Reed Army Hospital. These patients ranged in age from 18 to 46 years, with an average age of 27. In 88 cases the initial symptom was painless swelling of the testis. Thirty-two of the patients, however, had pain in the testis sometime prior to surgery. This is of interest, since 22 of the patients were treated initially for epididymitis.

The initial diagnosis in 64 patients (60%) was tumor. An erroneous initial diagnosis was made in 42 patients (40%). The commonest diagnostic errors were epididymitis and orchitis. Careful bimanual examination of the testes would be an aid in differential diagnosis.

The lag between the onset of symptoms to the diagnosis was 7.2 months in the entire series, 7.5 months in patients with metastasis, and 9.0 months in patients with an erroneous first diagnosis. The pathological diagnoses with the percentages of metastases are shown in table 1.

Fifty-one patients (48%) had metastases at the time of the radical lymph node dissection. In 2 patients solitary pulmonary metastases developed following a radical retroperitoneal lymph node dissection in which there was no pathological evidence of extension. Thoracotomy with resection of the involved lobe was carried out, and in nine months follow-up there was no recurrence of the lesion. Twenty-six patients are known to have died, and all had metastases at the time of surgery. The hormone test was performed in 97 patients and was positive in 17 (17.6%). Four of these patients had chorioepithelioma, two choriocarcinoma, eight teratocarcinoma, two embryonal carcinoma, and one seminoma. The history and physical examination are paramount, and treatment should not await the results of the hormone test.

TABLE 1.—*Types of Testicular Tumors Observed and Percentages with Metastases at Walter Reed Army Hospital from July, 1946, to June, 1952*

Type of Tumor	Total No.	No. with Metastases	%
Epidermal cyst..................	1	0	0.0
	39	6	15.4
	34	20	58.8
	13	10	76.9
	12	9	75.0
Chorioepithelioma..............	6	5	83.3
Adult teratoma..................	1	1	100.0

Simple orchiectomy was performed in 12 patients, orchiectomy with radical retroperitoneal lymph node dissection in 93, and removal of the tumor from the testis in 1. Simple orchiectomy was performed in patients with obviously inoperable metastases. There have been no deaths from radical surgery at this hospital.

TREATMENT

The treatment for testicular tumors is radical surgery followed by appropriate irradiation. Orchiectomy, with resection of the spermatic cord, spermatic vessels and retroperitoneal lymph nodes, should be carried out for all malignant tumors of the testis if a cure is anticipated.[3] The incision for the lymph node resection is made from the external inguinal ring to the midaxillary line between the 10th and 11th ribs. It may be continued posteriorly with the risk of entering the thorax. This type of incision provides good exposure to the renal pedicle and diaphragm. Radical surgical treatment with irradiation has given better results than orchiectomy plus irradiation (table 2).

TABLE 2.—*Comparison of Survival Rates of Series of Patients Treated with Irradiation and Orchiectomy or Radical Surgery*

	U. S. Naval Hospital *		Walter Reed Army Hospital †		
Type of Tumor	No. of Patients	% Survived	No. of Patients	% Survived	Difference in Percentage
Seminoma (radiosensitive)	75	59.6	103	81	21.4
Teratocarcinoma embryonal carcinoma (radioresistant)	141	19.1	100	37	17.9
Total................	216	31.7	203	57	25.3

* In this series orchiectomy plus irradiation was the method of treatment.

† In this series radical surgery plus irradiation was the method of treatment.

Although seminomas are more radiosensitive than other types, radiation therapy alone cannot be depended upon to control the tumor spread. Friedman and Moore,[1] in their series of 922 patients, found 319 with seminoma. In a later report, Friedman [4] noted that of the 28 patients with seminoma who had metastases, 11 (39.3%) had metastases of embryonal carcinoma, teratocarcinoma, or some other type. This type of radioresistant metastasis makes surgical excision of the testis, spermatic cord, spermatic vessels, and retroperitoneal lymphatics the treatment of choice. The operation is followed by appropriate irradiation.

Advances in irradiation therapy equipment have been so rapid in recent years that evaluation of results, even by experts, is very difficult. Many powerful and dangerous tools have been discovered and developed. The supervoltage unit and radioactive isotopes may radically change the treatment of malignant tumors. Some physicians believe that the therapeutic application of these elements may become so effective that the use of the scalpel may soon be obsolete in the management of cancer. Methods and equipment rapidly become outmoded, and future treatment is unpredictable, but certain basic factors remain steadfast. It is proverbial that the more

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2. Lewis, L. G.: Testis Tumors: Report on 250 Cases, J. Urol. 59:763, 1948.

3. Moore, R. A.: Teratoid Tumors of Testes (Ramon Guiteras Lecture), J. Urol. 65:693, 1951.

4. Friedman, N. B.: Comparative Morphogenesis of Extragenital and Gonadal Teratoid Tumors, Cancer 4:265, 1951.

conditions appear to change, the more they remain the same.

The 1,000 kv. radiation unit is in common use, and treatment with this type of apparatus has been standardized. At present the 2,000 kv. supervoltage unit with rotation exposure is considered the safest and most effective type of irradiation.

Preoperative irradiation has no place in the treatment of malignant tumors of the testes. Postoperative irradiation is considered under the following headings: (1) curative, (2) prophylactic, and (3) palliative.

Curative Irradiation.—It is asserted by some authors that seminoma is curable by irradiation alone. There is, however, considerable doubt that such therapy will eradicate deep-seated cancer. If irradiation alone will cure seminoma, there should be no mortality following such treatment.

Prophylactic Irradiation.—All seminomas (radiosensitive tumors) as well as radioresistant tumors that have presented metastatic extension at operation are irradiated postoperatively. Radioresistant tumors that show no metastases at operation are not benefited by irradiation, and such therapy only complicates convalescence.

Palliative Irradiation.—Irradiation is used to relieve pain, delay the spread, and prolong life in patients with hopeless metastases.

Pulmonary invasion has been treated by thoracotomy and resection of the solitary metastasis in four patients. The immediate result in two patients has been encouraging, but insufficient time has elapsed for evaluation of the efficiency of this type of therapy.

Three patients with extensive metastatic spread associated with severe pain were treated by castration and estrogen therapy. The metastases receded, and the pain was relieved. Further study may prove this type of palliative treatment to be useful in prolonging life and, in some cases, contribute to the patient's comfort.

STANDARD OPERATIVE PROCEDURES AT WALTER REED ARMY HOSPITAL FOR TREATMENT OF TESTICULAR TUMORS

Radical orchiectomy is indicated for all malignant tumors of the testis that show no clinical evidence of extension outside the retroperitoneal space. Postoperative treatment includes postoperative irradiation for radiosensitive (seminoma) tumors with or without pathological evidence of extension to the retroperitoneal space. Radioresistant tumors without pathological evidence of extension to the retroperitoneal space are not treated by postoperative irradiation. Postoperative irradiation is used for radioresistant tumors with pathological evidence of extension to the retroperitoneal space.

When extensive metastases are present, treatment includes bilateral orchiectomy, administration of estrogen, and irradiation. In the presence of a solitary metastasis to the lung following radical orchiectomy, thoracotomy with resection of the metastasis and adjacent lung is done and irradiation is applied.

SUMMARY AND CONCLUSIONS

Cancer of the testis is totipotent. Radiosensitive seminomas often metastasize as radioresistant tumors. The important factors in the prognosis of cancer of the testis are as follows: (*a*) structural pattern; (*b*) stage of development at time treatment is begun; and (*c*) type of treatment. The treatment of choice is orchiectomy, resection of the spermatic cord, spermatic vessels, and retroperitoneal lymph nodes, followed, when indicated, by appropriate irradiation therapy.

INDUSTRIAL MEDICAL SERVICE BY PRIVATE PRACTITIONERS

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Industrial organizations are making increasingly heavy demands on the medical profession for sound guidance on matters of employee health. What is needed, it would seem, is more emphasis on the preventive aspect of medicine and less on the curative aspect. While injuries and some occupational disorders such as contact dermatitis continue to occur with some frequency, it has become unusual for even a large industrial plant to have many. Safety engineering practice has been developed to the point where many employees are actually safer on the job than at home or on the highway. The majority of industrial injuries that do occur are minor and respond quite well to the type of treatment that competent industrial nurses are trained to administer under medical supervision. In few plants does the practice of traumatic surgery require a large part of the time of medical personnel. A growing portion of medical time in the plant is being devoted to other and more fruitful pursuits. These are concerned with the preservation of the health of employees by means of active health education, by the control of environmental hazards, and by periodic health appraisals. Industry is prepared to sponsor these positive health measures.

Totally aside from the desire of some employers to make available to workers these well-tested preventive techniques for their own sake, adequate economic incentive for establishing employee health guidance has now been provided. Preventive medicine in industry is just entering a period that promises to be one of rapid development. An analogy may be drawn to the real beginnings of the industrial safety movement some 40 years ago. With the widespread adoption of state workmen's compensation statutes, the loss of life or limb due to occupational injuries became such a catastrophic financial burden to industry that a solution was forced, and the safety movement was born. When it was demonstrated consistently that pennies spent on accident prevention resulted in dollars saved on compensation payments, progress in safety engineering led to almost un-

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believable improvement in accident experience in the most hazardous industries. Hospital accident wards are no longer filled with the human carnage of factory accidents.

NEW ECONOMIC PRESSURES

Other economic pressures have now developed. Some have arisen out of new solutions to labor-management conflict, while others have been stimulated by statutory provisions for payments to employed persons temporarily disabled from any cause. These new pressures are (1) the importance of "fringe benefit" provisions in labor contracts; (2) the growing tendency of labor organizations to establish medical programs operated entirely at employer expense; and (3) compulsory state disability compensation laws.

During the recent periods of the application of government controlled wage ceilings, the practice of liberalization of "fringe benefits" by collective bargaining has flourished, providing economic advantages to workers in lieu of actual wage raises. These provisions usually have included pension plans with provision for premature retirement due to permanent disability, hospitalization and surgical insurance, and the payment of at least partial wages during periods of temporary disability from any cause largely, or entirely, financed by the employer. In 1951, the average fringe payments reported by a representative cross-section of American industrial firms amounted to 18.7% of the payroll, or $644 per year per employee, paid in addition to actual wages.[1] The sound administration of these benefit plans, distributing in the aggregate some 1.5 billion dollars yearly and largely related to the health of employees, requires competent medical advice.

Labor unions have become health conscious. Several large unions have established medical programs for their members, chiefly in the needle trades, in some service trades, and in the automobile industry. These health plans are administered by the unions, and usually are financed completely by employers. The plans tend to include complete medical care, often for the entire family of the union member. When the development of employer-sponsored industrial health programs has lagged, either for lack of employer interest, or because an industry may be made up of numerous small employers, such as the garment manufacturers, then the union plans have flourished. While most employer programs are limited to the care of occupational disability and to the provision of preventive measures, with insistence that the other aspects of medical care remain in the field of private medicine, the union programs are more likely to control complete medical service. But where the employer has hesitated to provide reasonable on-the-job health guidance, he sometimes has found himself paying for around-the-clock medical care for the workman and his entire family. Companies in growing numbers are seeking assistance in setting up medical programs of their own choosing.

The third major economic pressure arises out of the compulsory disability benefits laws now in effect in 4 states, with similar bills under consideration in at least 15 other state legislatures. In two of the states having such laws, New York and New Jersey, a considerable portion of the cost of state payments to persons absent from work because of illness or injury is borne by employers. In addition to this direct monetary stimulus, an additional incentive for employers to increase their participation in health maintenance measures and health education may be expected to result from analysis of the statistical records accumulated under these plans.[2]

Even the employer who may not yet have felt the impact of these economic forces is being reached by other arguments for improved health facilitites in industry. Management is besieged with data on the benefits to be derived from a sound medical program. Much of this proselyting material is now coming from sources close to industry—from the National Association of Manufacturers,[3] from the American Management Association, and from other trade associations and professional business groups. The effectiveness of the industrial health program in reducing sickness absenteeism and labor turnover, in cutting compensation costs, and in improving employee morale is being widely discussed. A note of hopefulness is being sounded that the benefits of a company health program may be felt in the improvement of community health. For all of these reasons, humanitarian and economic, American industry is reaching out to medicine for help.

ROLE OF THE PHYSICIAN

How are we prepared to render such help? Who will provide the necessary guidance in matters of industrial health? Even nominal medical service to industry cannot be provided by the efforts of those who choose to practice industrial medicine exclusively. The great bulk of these services will continue to be rendered by the private practitioner of medicine. Whatever benefits of preventive medicine as applied to industry are to be enjoyed by the nation's workers will reach them only through the interest of private practitioners who have equipped themselves for effective service in industry.

The physician who recognizes that his best effort cannot be made from outside the plant and therefore undertakes to extend his activities to the industrial setting is likely to find himself bewildered by the complexities of organization and the seemingly conflicting aims that characterize the operations of many companies. On the one hand, the production departments, as well as the maintenance and sales departments, will be striving for constantly improved records of achievement and may be doing so with little recognition of human emotional and physical limitations. At the same time, the employee services department, including the medical section, should be pulling just as hard for increased recognition of factors of safe working conditions and the importance of proper job placement in keeping with the true capabilities of employees. Where research and development teams may be bringing forth complex and perhaps highly dangerous new compounds, a health group should be keeping up

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1. Fringe Benefits, 1951, Nonwage Labor Costs of Doing Business, Economic Research Department, Chamber of Commerce of the United States, Washington, D. C., 1952.

2. Farrell, J. E.: Health Education Through Compulsory State Disability Compensation Programs, J. A. M. A. **150**: 654 (Oct. 18) 1952.

3. Policy Statement of the Industrial Health and Medical Programs, National Association of Manufacturers, New York, 1952.

adequate toxicologic data on these materials. As the physician enters into this apparent conflict of dynamic forces, he soon learns that his greatest effectiveness in maintaining and improving the health of the workmen comes only through sound working relationships with certain groups in the plant. These relationships, in the order of importance, are with the employees, with professional colleagues, and with management.

PATIENT-PHYSICIAN RELATIONSHIP

The physician in industry has the same moral, ethical, and legal obligation to the employees who voluntarily seeks his counsel that he has to patients in the more familiar surroundings of his own practice, despite the fact that usually he is dealing with the private patients of a colleague. It is imperative that this ethical and legal principle of behavior be adhered to by the industrial physician and that the significance of it be conveyed to employee and to management alike. The fact that personal medical records are kept in the medical department or the office of the physician, are held in strict confidence, and are not subject to review by management is a useful measure in establishing the spirit of trust in the physician that must exist in the plant. It is to be expected that, when the physician first appears at the plant, he may encounter an attitude of at least cautious appraisal, if not of suspicion. The physician initially may be considered to be simply a servant of management—by the employees, sometimes by his professional colleagues, and, occasionally, even by management itself. When the physician has demonstrated the fact that his first concern is for the welfare of the patient, it is gratifying to observe the rather prompt change in attitude from one of partial mistrust to one of complete acceptance and confidence.

Misunderstandings that arise with respect to the confidential nature of plant medical records may be dispelled by consideration of the basic principles of what constitutes privileged information. In general, the patient-physician relationship is established when a person voluntary presents himself to a physician for diagnosis leading to treatment. Any information given the physician by the patient under these circumstances is privileged, regardless of whether the consultation is held in the medical department of an industrial plant or in the private office of the physician. The results of any diagnostic studies conducted as part of such consultation must be held confidential. These precepts apply in the usual types of employee visits to the plant medical department for the emergency care of nonoccupational conditions and particularly in cases of voluntary periodic health appraisals. A somewhat different situation exists when an employee presents himself to a physician designated by employer or insurance carrier for the treatment of a work-incurred injury or illness. In these cases, no confidential historical information need be offered by the patient. The fact of his appearance before the approved physician is taken as consent for the dissemination of information concerning the injury or illness to the proper compensation agency. The established channel through which this information flows is usually the personnel department or the employee welfare section of the plant.

Other circumstances under which the patient-physician relationship is not established are those of the preplacement physical examination of job applicants. The applicant need render no information as the basis for treatment, since no treatment is to be given. The results of the physical examination therefore may be made known to the employment office that has referred the person for appraisal. When the preplacement physica examination is carried out in a plant medical departmen or in his private office by a physician responsible for th health maintenance of a group of employees, the actua details of the examination should be held in confidenc by him; only such information should be given to th employer as will be necessary for proper job placemen This is usually accomplished by the use of a system classification in which the suitability of the applicant f certain types of work is indicated without actual dia nostic information being revealed. Obviously, the ph sical requirements of the jobs in question must be know to the physician if he is to reach an intelligent and realist decision on job placement based on the physical abiliti of the applicant.

The wisdom of safeguarding medical informati acquired in the course of the examination of applica and employees, even when such information is legally regarded as privileged, is apparent. The physici who holds the true interests of the examined person be preeminent under all circumstances is making most effective approach to his medical duties in the pla

PROFESSIONAL RELATIONSHIPS

In the past, professional relations between the ind trial physician and the private practitioner have b disturbed by the attitude on the one hand that the priv practitioner has not, by training or experience, quali himself to deal with occupational diseases and on other hand, that the industrial physician, totally divor from private practice and only secondarily intereste therapeutic medicine, is not to be dealt with as an e and respected colleague. Happily this rather awkw situation is changing. It is of significance that the Am can Academy of General Practice in a recent poll fo that about 93% of its members have some direct o direct responsibility for medical service in cases industrial origin. The private practitioner who is ca on to render medical advice to an industry even o sionally, usually becomes quite sympathetic toward nature of the activities of the full-time or the part- industrial physician. Kehoe[4] has suggested further s tion in this way: "There must be concerted action o part of physicians in and out of industry, to see tha health and lives of industrial workers are safe-gua in the most effective manner. This concerted action not be achieved by mutual formal exchanges of pr sional courtesy, but by the direct and frank collabor of men who know their way about in their respe fields of work."

The role of the nurse in industry differs some from that of the hospital nurse and the public h nurse. Industrial nursing is rarely bedside nursing t large degree. While the day's work may be occupied with minor medical and surgical treatments, the competent nurse in industry also has been imbued with the preventive idea, for the purposes of maintaining health and of assisting in the control of disease and accidental injury. In the industrial plant she is not under the vigilant eye of a hospital floor supervisor, and she savors this relative freedom. Nonetheless, she requires and expects the interested direction of a physician. She can participate in rendering personal medical services involving diagnosis and definition of treatment only when acting under direct medical supervision, or under indirect supervision such as that provided by formal standing orders. The nurse usually is the first to recognize her professional, ethical, and legal limitations in these matters. The physician who serves industry on even a part-time basis must provide the sound and continuing type of medical supervision that all well-trained nurses expect.

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[4] Kehoe, R. A.: Place of Individual Physician in Industrial Health, Cincinnati J. Med. 25:49, 1944.

An industrial hygiene engineer may be employed in the larger plant. The physician is very likely to have some contact with a person of this background, who either is on the staff of the medical department or comes as a technical consultant. The function of the industrial hygiene engineer may be defined as "the study and control of environmental factors affecting the health and well-being of industrial workers." [5] This is a large order, and to a very considerable degree we are all engaged in this pursuit. The particular interest of the engineer is in the description of the physical and chemical nature of the industrial environment and the design of facilities that will result in the elimination of undesirable characteristics. His skills may include techniques for sampling the atmosphere, for analyzing its components, and perhaps for substituting safe materials for dangerous ones. His effectiveness is greatest when he is given the opportunity of reviewing proposed plant operations, from a health and safety standpoint, while these operations are in the planning stage. He is an invaluable member of the industrial health group. Without entering into controversy relative to the proper place for the industrial hygiene engineer in the organizational plan of the company, it may be said that his activities perfectly complement those of the physician trained in occupational medicine and may be essential to those of the physician whose interests in industrial health are more casual.

RELATIONSHIPS WITH EMPLOYERS

The physician who has a clear concept of the nature of his ethical responsibilities to the employees, and communicates this information to management at the appropriate time, should have no difficulty in dealing with industrial personnel on medical matters. Constant education of supervisory personnel is necessary, because it is at this level that one often encounters a fierce, fanatical, and sometimes rather blind loyalty to what erroneously may be considered the best interests of the company, even to the detriment of the employee. A patient but inflexible attitude of fairness by the physician is required in pointing out that the true interests of the employer can only be served by careful consideration of what is best for the employee.

An example may serve to illustrate this point. The management of a plant may be so proud of a good safety record that it becomes a thing to be zealously guarded. This is true of the safety department to an even greater degree. According to the rules of scorekeeping in such matters, only injuries resulting in actual disability affect the safety record. One of the chief determinants of disability is loss of time from work. When an injury occurs, for example, a low back strain, the safety department may temporarily lose sight of the best medical interests of the injured employee. There is frantic effort to protect its recognized standard of efficiency, the safety record. In some plants it may be suggested that a newly injured man, on crutches or in a heavy cast, be delivered to the clockhouse for the purpose of simply punching his time card, establishing for the sake of the record his ability to work and thus avoiding that symbol of safety failure, a lost-time accident. This is not according to Hoyle, but I have heard that it has been done. The duty of the physician in these cases is quite clear. While early return to work has become an accepted principle of rehabilitation of the injured, decisions based on considerations other than the welfare of the patient cannot be countenanced.

When a person is to be returned to work after injury or prolonged illness, he cannot be expected to have the same level of physical proficiency for his tasks that he had before the onset of his disability. This is particularly true where the job may be one requiring considerable exertion or skill of coordinated movements. Common sense dictates a gradual return to full duties. The foreman of a work crew is often restricted by management policy, perhaps abetted or even dictated by terms of a labor contract, to a specified number of men to perform a certain job. While he may easily absorb into a small group one or two workmen whose physical activities have been restricted on medical recommendation, there is a limit beyond which he cannot go if the day's work is to get done. He may then become unwilling to accept men who can perform only limited duties. At this point the physician, who has already convinced the safety man that a certain injured man requires a period of recuperation off the job, now has a new problem. He may now consider the man ready to begin to resume his work activities on a gradually increasing scale, only to find that the foreman does not want the man back until he is completely fit. Patience and careful explanation again will be required.

The physician who is new in industrial medicine finds that his decisions, if they are to be respected as well as observed, must be based upon certain practical considerations in addition to exclusively medical ones. The physician may be accustomed to making pronouncements on health matters without explanation, but if he wishes to lay the foundations of a sound working relationship in the plant, he will avoid in his actions the unnecessarily arbitrary manner that may be accepted but is always resented.

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[5] Article II of the Constitution adopted by American Industrial Hygiene Association, Pittsburgh, July 15, 1941.

IMPORTANCE OF STANDARDIZATION OF NURSING HOMES

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The subjects of long duration illness and the care of the aged are close to my heart and are conditions that I have been interested in for many years. Life expectancy in the United States has increased and, I am sure, will continue to increase for many years to come until this nation enters its period of deterioration, which must come to all nations. Then we will get a reversal of this trend. A child born at the turn of the century had a life expectancy of about 49 years.[1] A child born today has a life expectancy of about 69 years. One does not have to be a great prophet to predict that, before long, we will pass the biblical expectancy of three score and ten.

There are several reasons for this increase, and among these we think of the great advances in public health and sanitation. A good example of this is typhoid, a disease rarely seen now. Many young doctors and nurses probably have never seen a case. The great advances that have been made in intracranial, thyroid, thoracic, gastrointestinal, and genitourinary tract surgery have contributed largely to this increase. We may expect continued advancement and improvements in these fields. The diabetic at the turn of the century was a very pathetic sight. A tentative diagnosis of his condition could be made on physical appearance alone. Then in 1921 came insulin, the work of the immortal Banting and his associate, Best. Now the diabetic will usually outlive his doctor. In 1926 came liver extract for the patient with pernicious anemia. Prior to that time, many patients died from this disease. In the past few years vitamin B_{12} has been added to our armamentarium for this disease. The patient with pernicious anemia now frequently lives to old age. The year 1935 brought the sulfonamides for use against acute infections. The early 1940's brought the various antibiotics to supplement the sulfonamides for acute infections and for other purposes. It is now unusual for patients to die from the known acute infections, and more persons live on to old age.

The forgotten men in medicine are the general practitioners and the pediatricians. The research worker who has discovered the cause of, or treatment for, a specific disease is duly recognized, and his name is immortalized in medical history. The general practitioner and pediatrician who have, more frequently than any others, brought these discoveries to the people are seldom thought of. I have in mind particularly their noble work in immunization against diphtheria, scarlet fever, and pertussis. These diseases took many children's lives. I have in mind also the work in the prevention of nutritional deficiencies and infectious diarrheas in children. All of this work has contributed largely to increasing life expectancy. In other words, the immunizations against the diseases of childhood and the prevention of nutritional deficiencies and infectious diarrheas have contributed largely to our new problems of the aging.

CHANGING CONDITIONS

I think it can be said that the philosophy of the American people began to change in the late 1920's or early 1930's. Out of this change, of course, came some good things. Out of it also came some unfortunate conditions. The good, of course, we think of at once: an increased standard of living with better housing, improvement in sanitation, and improvement in working conditions. At the turn of the century, men not infrequently went to their work, during some seasons, in the dark and returned from their work in the dark, never having been in the sunlight. God, or men with social consciences, never intended this.

With the improvement there also occurred some unfortunate conditions. One has only to reflect a little to detect an unwillingness on the part of younger persons to care at home for the aged, and they are sent to nursing homes. During World War II, there was a great shortage of manpower. Married women were called into industry, on the basis of patriotism, but, as time went on, they continued to work. Time has proved that this continuance in many instances was actually for the purpose of buying more frills than could otherwise be provided. Of course, something or somebody had to suffer. It is difficult to work and care for a home. The aged have suffered, and children are beginning to suffer. The term "baby sitter" that came into being about this time now has a very broad meaning and is very widely used. Time alone will tell us whether the improvements that we all accept as good are outweighed by the destruction of a moral philosphy that was standard and accepted before this change. I am old-fashioned enough to believe that the latter is true and that we may now be looking at the beginning of our national deterioration.

The general hospitals in this country have increased in numbers and capacity beyond the expectation of most men. In 1909 there were 4,309 [2] registered hospitals. In 1952 there were 6,665 registered hospitals, with a bed capacity of 1,541,615. The Hill-Burton act, a one-time federal grant for hospital construction, has aided in this increase. Despite this, there is a shortage of hospital beds. It is estimated that there were 3,910,000 births in the United States in 1952. Of this number, 3,170,495 babies were delivered in hospitals. In some states 95% or more were delivered in hospitals. The cost of hospital care has increased a great deal. This was to be expected with the changing philosophy and with a large part of the increase being due to the increased costs of materials and labor.

NEED FOR NURSING HOMES

At this point one asks the question: Are there great numbers of persons with long-duration and probably incurable illnesses in general hospitals who could be cared

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Read at the meeting of the American Association of Nursing Homes, Minneapolis, Sept. 1, 1953.

[1] Dickinson, F.: Mortality Trends in the United States: 1900-1949, Bureau of Medical Economic Research, bulletin 92, Chicago, American Medical Association, 1952.

[2] Hospital Service in the United States, report of the Council on Medical Education and Hospitals of the American Medical Association, J. A. M. A. 152: 145 (May 9) 1953.

for as well, if not better, in nursing homes? I think there are. The question, however, is in dispute. Bluestone[3] of Montefiore Hospital feels that a large number of those in nursing homes belong in general hospitals. He also feels that the minority belong in nursing homes or in their own homes. Blue Cross,[4] Blue Shield, and old line insurance companies now provide coverage against catastrophic illnesses for a very large segment of the population. Approximately 90 million persons are covered against the cost of hospital care, 72 million against surgical costs, and 32 million against medical costs. This, I believe, is and should be the answer to those who believe in the federalization of medical care—the first step in complete socialization.

At the national level, the question of chronic illness is being studied intensively on two fronts. A suburban study is being carried on in Hunterdon County, New Jersey, and an urban study in the Baltimore area. Included in the latter study is the nursing home question. Four other states are now carrying on studies of nursing homes. The question of rehabilitation, so long ignored in this country, and now spearheaded by Dr. Howard Rusk, is bringing valuable and encouraging information to the front. Patients, particularly young patients, previously accepted as being totally disabled, are again taking their useful places in society. Industry is attempting to find places for partially disabled men and women. The National Foundation for Infantile Paralysis, as it continued its intensive studies of the viruses of this crippling disease and the production of a vaccine, has carried on a splendid rehabilitation program with grants and fellowships toward improved methods of rehabilitation, and at the same time has encouraged direct application of known methods for the relief of these unfortunate persons.

What does all this add up to? The overloading and overburdening of the general hospitals, the increased cost of hospitalization, the increase in life expectancy, the large numbers of persons covered by prepaid hospital and medical plans, and the undoubted increase in the number of persons suffering from long-duration illness all indicate that from this time on the nursing homes will take their rightful places in the sun. It is stated that there are 14,000 nursing homes[5] in the United States. Dr. Frank Dickinson,[1] of the Bureau of Medical Economic Research of the American Medical Association, states that there are about 11 million persons over 65 years of age in this country. He also estimates that in 1970 there will be between 15 and 18 million in this age bracket. He lists the three important causes of death in those over 65 as heart disease, cancer, and vascular disease. These statistics sustain the medical opinion that persons in the older age bracket are particularly subject to long-duration illness. They also indicate the necessity now for an increase in bed capacity and preparations for the future. If this increase in bed capacity in nursing homes is accomplished, it will serve a threefold purpose. The general hospitals will have more beds available for acutely ill patients, the general cost of hospital care will be reduced, and the care of the patient with long-duration illness will be improved and specialized in nursing homes.

CRITERIA FOR NURSING HOMES

Standardization and accreditation become increasingly important as we progress in our methods for the care of the sick. The Joint Commission on Accreditation of General Hospitals has been in operation since 1952. The Council on Medical Education and Hospitals accredits hospitals for the training of interns. The Committee on Accreditation of Nursing Schools has been in operation for about a year. These are individual or joint efforts of the American Hospital Association, the National League of Nursing, the American College of Surgeons, the American College of Physicians, and the American Medical Association. I think it is fair to say that there are good and poor nursing homes in this country. I feel that this is the place where your organization must step in to improve conditions. The time has come, I believe, for the standardization of nursing homes. This should be done by your organization. It must be done, in my opinion, cautiously and carefully. It should be done on a basis of pattern direction and should be a voluntary approach. By this I mean general guidance and advice to state or member organizations as to standards and requirements.

At present the public health laws and fire laws of the various states make certain specific requirements. This is as it should be, and they must be religiously enforced. Obviously older persons or disabled persons need greater protection than the young and well. The progressive cities or states are those that have adequate public health laws and fire laws. The Council on Medical Education and Hospitals of the American Medical Association now registers some nursing homes. Of course, it would be physically impossible to cover all of the 14,000 nursing homes in the United States. The Council can, and I am sure will, aid your organization in its direction of patterns. Specifically, several recommendations can be made as to medical care in nursing homes. Where possible, these homes can be annexed to the general hospital. If this is not possible, an affiliation with a general hospital may be accomplished. It is of benefit to the general hospital to know that a suitable affiliation exists where their patients with long-duration illness will be adequately cared for. I would urge that, wherever possible, the medical care be provided on a voluntary basis. In the larger homes, by which I mean those of 100 to 200 beds, I would recommend that a regular staff be appointed. If the home is attached to a general hospital, the staff can be provided by the general hospital. If not, the county or city medical society will aid in the selection. In smaller hospitals, the same procedure will apply, or the patient may have his own physician. Wherever possible, the free choice of physicians should apply. I believe that all patients should have preadmission chest roentgenograms. These should be considered a must. Obviously, the patient with pulmonary tuberculosis belongs in a tuberculosis hospital and not in a nursing home. In general, and I say this from wide experience, the mode of living of the older patient should not be changed too much. One should not be

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3. Bluestone, E. M.: Long Term Illness in Modern Society, J. A. M. A. 133: 1051 (April 12) 1947.
4. Horton, W.: Personal communication to the author.
5. Waterman, T. L.: Nursing Homes—Are They Homes? Is There Nursing? Am. J. Pub. Health 43: 307 (March) 1953.

ultrascientific at the price of great discomfort to the patient. Keeping him comfortable and happy is more important than overindulgence in academic curiosity. I think it necessary that a physical examination of the older patient be done twice yearly and more frequently if some acute conditions develop. I doubt the wisdom of exhaustive laboratory studies. If these are required, the patient can be transferred to a general hospital for immediate and intensive care. Some of the simpler procedures, such as blood cell counts, urinalyses, and blood sugar determinations can be done. These could be done very well by a technician. In the case of smaller homes, one technician could well service several. In the case of the very small homes, these might well be covered by the physician, or a reputable commercial laboratory.

I know that in any effort toward the elevation of standards you will have the cooperation of the medical profession. The medical profession recognizes the importance of nursing homes and is anxious for the improvement of standards. We must always bear in mind that the nursing home is and should be operated for the kindly, gentle care of these old persons who find themselves in the late period of their lives without any place else to go, who are entitled to good care, and who do not need overly scientific study. Of all of the services required for the aged and those suffering from long-duration illness, I would place nursing first. I say this with a full appreciation of the other allied services necessary. It is now agreed by all that there is a great shortage of nurses in this country. There is no single cause for this shortage. The causes are multiple and include the low birth rate in the early 1930's with fewer young women now of working age, and the competition of industry, clerical work, teaching, and other fields open to young women. Finally, higher wages are obtainable in other fields of endeavors after a much shorter period of training or no training at all. The shortage presents itself in bedside nurses and teachers. The study now under way by the Committee on Accreditation of Nursing Schools brings this out clearly. The Committee of the American Medical Association for the Study of the Nursing Shortage made the following strong recommendations in its report in 1948: (1) that nurses be made up of three groups: (*a*) 15% collegiate nurses (these women to act as teachers in nursing schools), (*b*) 25% hospital-trained nurses, and (*c*) 60% trained practical nurses; (2) that the courses of the hospital-trained nurses be reduced to two years; and (3) that provision be made and credits allowed, in selected cases, for advancement from one group to another. The committee strongly reaffirmed its position this year. I think it can safely be said that for many years there will be a shortage of nurses if we pursue the old methods of training nurses. The recommendations of the American Medical Association's committee are sound, and if they are followed, I am sure that the shortage will be corrected.

I bring up the question of shortage of nurses and the recommendation of the American Medical Association committee because I believe that nursing homes have suffered and will continue to suffer from this shortage as much or more than the general hospitals. If there is a place for the team concept of nursing, and I believe there is, it is in the nursing home for the care of the aged and those with long-duration illness. I think of the collegiate nurse or the hospital-trained nurse at the top. Depending on the size of the home, I think of the hospital-trained nurses or trained practical nurses in the bracket below. In still another bracket, I think of personnel trained on the job. With this team, the patients will be given good and kindly treatment and care. Regarding the qualifications of the nurse, and particularly the nurse in nursing homes, I should like to paraphrase a statement made for another purpose by Miss Jane Hoey[6] of the Social Security board: The nurse should have (1) a sincere belief in the divine origin of man, (2) a sincere belief in the divine destiny of man, and (3) recognition of the God-like quality common to all men. The nurse with these basic qualifications will be a credit to her profession, and those under her care will be assured of good and kindly care. Of course, adequate theoretical and practical training must be added to these basic requirements.

I have tried to outline for you my evaluation of the present nursing home, its future, and the very high place it has in the healing arts. You are caring for a group of persons in the evening of their day, with the shades drawn, and darkness soon to come. They must be treated kindly, gently, and well. To accomplish this, you must keep your standards high. In this effort, I can assure you of the generous cooperation of the American Medical Association.

Professional Bldg.

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[6] Hoey, J. M.: Three Minutes a Day, Garden City, N. Y., Doubleday & Company, Inc., 1953, p. 353.

CLINICAL NOTES

FATAL HEMOLYTIC TRANSFUSION REACTION CAUSED BY SENSITIZATION TO A NEW BLOOD FACTOR U

REPORT OF A CASE

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The purpose of this article is to describe a blood factor apparently not encountered previously. A case is reported in which sensitization to the new blood factor caused a fatal hemolytic reaction.

REPORT OF CASE

A Negroid woman, aged 35, was admitted to a hospital in Manhattan with the diagnosis of a bleeding peptic ulcer. According to the information received, the patient had been pregnant three times but had only one living child. On admission a blood count showed severe anemia, 4 gm. of hemoglobin per 100 cc., 1,280,000 red blood cells, and 29,000 white blood cells, with 73% neutrophils, 6% metamyelocytes, and 20% lymphocytes. A blood transfusion was attempted but discontinued after 100 cc. had been administered, because of a reaction consisting of chills and fever. A week later a blood count showed persistence of the anemia, and another

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blood transfusion was carried out. The intern who administered the blood and who performed the cross-matching test was called back to the patient's bedside because she had gone into shock during the transfusion. The transfusion was discontinued, but all efforts to revive the patient were of no avail, and she died shortly thereafter. We were then asked to investigate the bloods, in order to determine the cause of the transfusion reaction.

TABLE 1.—*Results of Grouping Tests for Patient and Donors*

Source of Blood	A-B-O Group	M-N Type	Rh-Hr Type	Kell Type
Patient	B	MN	$\mathfrak{R}h_1rh$	kk
1st donor	B	MN	rh	kk
2nd donor	B	MN	rh	kk

The bloods of both donors belonged to group B MN rh kk (table 1), while the blood of the patient belonged to group B MN $\mathfrak{R}h_1rh$ kk. The patient had been given Rh-negative blood, because her blood had been erroneously typed as Rh negative. Actually, her blood contained an Rh_0 variant as indicated by the symbol $\mathfrak{R}h_1$, and this accounted for the error in typing. This, of course, had no bearing on the hemolytic reaction.

TABLE 2.—*Titration*[*] *of Abnormal Isoantibody (Anti-***U***) in Patient's Serum*

Temperature of Tests	Test Cells (All Group O or B)	Dilution of Serum								
		Undiluted	1:10	1:20	1:40	1:80	1:160	1:320	1:640	1:1,280
37 C	1st donor	+++	++±	++±	++	+±	+	tr.[†]	—	—
	2nd donor	+++	++±	++	++	++	++	+±	tr.[†]	—
	Patient	—	—	—						
5 C	1st donor	+++	++±	++	+	—	—			
	2nd donor	+++	++	+±	tr.[†]	—	—			
	Patient	—	—	—						

[*] Titrations were carried out in the usual way by the tube agglutination method in a saline medium. In a series of tubes one drop of the appropriate serum dilution was mixed with one drop of a 2% suspension of the indicated red cells. After incubation at the indicated temperature for two hours, the tubes were gently shaken and the reactions read. The strength of the clumping is indicated by the number of pluses, +++ being the strongest reaction possible, namely, one large clump of cells.

[†] At these dilutions faint clumping was observed.

Repetition of the cross-matching test showed that the patient's serum contained an abnormal antibody that strongly agglutinated the cells of both of the two donors. The antibody was of high titer and avidity, so that clumping occurred promptly when the matching tests were carried out, even on the slide with saline-suspended cells.

As shown in table 2, the titer of the antibody at body temperature was approximately 400 units, while the titer at refrigerator temperature was only 40 units. Thus, the antibody had the property of an immune isoantibody, in contradistinction to naturally occurring antibodies such as anti-A, anti-B, and anti-P. The antibody was active by the ordinary agglutination method in saline medium. Treatment of the cells by ficin had no noticeable effect on the strength of the reaction, so that the blood factor involved was evidently not affected by proteolytic enzymes. Tests on a short series of blood specimens showed them all to be incompatible with the patient's serum, so that the factor in question had a high frequency in the population and was apparently not related to any known blood factor. For example, anti-k (anti-Cellano) was immediately excluded, since the patient herself was Kell negative.

It was then decided to test a large series of persons in order to find persons lacking the factor, which was designated **U**. Since a satisfactory symbol could not be devised from the patient's name, the letter **U** was selected to avoid confusion with symbols for previously described blood factors and to indicate the almost universal distribution of the new blood factor. Since the patient herself was Negroid, it was anticipated that such persons would be more apt to occur among Negroids than among Caucasoids, so that both Negroids and Caucasoids were included in the study. To economize use of the serum, of which only a few cubic centimeters had been obtained post mortem, it was used in a 1:20 dilution for the tests. Moreover, after the tests were read, the serum was recovered and used again until it no longer gave satisfactory reactions. In this way we carried out tests on 690 Caucasoids and 425 Negroids. As anticipated, while no negative reactions were obtained in the series of Caucasoids, four negatively reacting persons were encountered among the Negroids, not counting the patient herself.

The blood groups of the five persons thus far encountered with blood lacking the factor **U** are given in table 4. Only persons with group O and group B blood were included, since the patient herself belonged to group B. It is evident that the blood factor **U** is not related to the A-B-O, M-N, Rh-Hr, or K-k systems. Moreover, the distribution is such as to exclude its relationship to any other blood factor described to date.

TABLE 3.—*Results of Tests for Factor* **U** *on a Random Series of Blood Specimens from Negroids and Caucasoids*

Source of Blood Specimens	No. of Persons Tested [*]	Results of Tests	
		No. Positive	No. Negative
Negroids	425	421	4
Caucasoids	690	690	0

[*] Only group O and group B persons were tested, all of whom were residents of New York City.

TABLE 4.—*Blood Groups of Persons*[*] *with Blood Lacking Factor* **U**

	A-B-O Group	M-N Type	Rh-Hr Type	Kell Type
Patient	B	MN	$\mathfrak{R}h_1rh$	kk
1	O	N	Rh_1rh	kk
2	B	N	Rh_0	...
3	O	MN	$\mathfrak{R}h_0$	...
4	B	N	Rh_0	kk

[*] Listed as numbers 1 through 4 in this table, these persons are the same as those referred to in table 3.

COMMENT

In the past month our attention has been called to two other fatal hemolytic reactions in addition to the case described here. One was caused by sensitization to the

Kell factor and the other by sensitization to the hr′ factor. It is evident that blood grouping at the present time is a high specialized field, so that these delicate tests must be carried out only by specially trained persons, if fatal hemolytic reactions are to be avoided. Certainly, the practice of delegating performance of grouping and cross-matching tests to interns with only a very incidental interest in the subject and very little training is to be condemned. In large hospitals there should be no problem in setting up an adequate blood grouping department, while in smaller hospitals use could be made of a central blood grouping laboratory. The medicolegal responsibility of individuals and hospitals concerned with blood transfusion has been the subject of a recent report.[1]

SUMMARY

A hemolytic transfusion reaction caused by sensitization to a new blood factor U is described. The blood factor U was found to be present in every one of 690 Caucasoids tested and in 421 of 425 Negroids tested.

64 Rutland Rd. (Dr. Wiener).

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[1] Wiener, A. S.; Grant, D. N. W.; Unger, L. J., and Workman, W. G.: Medicolegal Aspects of Blood Transfusions, report of Committee on Medicolegal Problems, J. A. M. A. **151:** 1435-1443 (April 18) 1953.

LEUKOPENIA FOLLOWING FUMAGILLIN TREATMENT FOR AMEBIASIS

REPORT OF A CASE

Edward C. Malewitz, M.D., Houston, Texas

Fumagillin, a new amebacide that is produced from a strain of Aspergillus fumigatus, has been claimed [1] not to produce toxic effects on parenchymatous organs including the blood and blood-forming tissues. The occurrence of moderate leukopenia following use of this drug is therefore reported.

REPORT OF CASE

The patient was a 40-year-old white engineer who had lived in various parts of South America for about 15 years. He contracted amebiasis in Venezuela in 1940 and received intermittent treatment thereafter. A random stool examination on Sept. 17, 1952, did not reveal cysts. On Aug. 3, 1953, a specimen obtained via a sigmoidoscope was examined because of mild diarrhea and tenesmus that had started several days earlier. The presence of cysts of Escherichia histolytica was confirmed by iron-hematoxylin stain. He was given 40 mg. of fumagillin daily for 14 days. On the last day of treatment he noted headache and recurrence of mild diarrhea. On Sept. 18, 1953, a stool specimen was reported as negative for cysts. The following week he was seen because of mild transient throat discomfort, which he had felt for the previous two weeks but had not thought sufficiently important to mention. In addition, he stated that the skin of his palmar and plantar surfaces had been completely desquamated. Examination revealed pink new skin on the plantar and palmar surfaces. His temperature was 98.6 F. His pharynx was diffusely injected, but no ulcers or exudate were seen. There was no adenopathy. The remainder of the examination revealed no abnormalities.

A direct smear from the pharynx showed no leukocytes with Wright's stain. Blood studies made on Sept. 24 revealed 13.6 gm. of hemoglobin per 100 cc., an erythrocyte count of 4,900,000; and 3,500 leukocytes per cubic millimeter, with 52% neutrophils, 39% lymphocytes, 4% eosinophils, and 5% monocytes. A blood cell count prior to the amebacide treatment was normal. A repeat blood cell count on Oct. 2 showed the leukocyte count to be 3,300, with 71% neutrophils, of which 58% were segmented and 13% stab forms, 10% lymphocytes, 3% eosinophils, 14% monocytes, and 2% atypical young forms. Toxic granulations were noted. The hemoglobin level was 13.0 gm., with 4,580,000 erythrocytes. Bone marrow and peripheral blood studies by Dr. Charles Spurr on Oct. 8 showed an almost completely normal picture with slight myeloid hyperactivity in the bone marrow but no abnormal cells in the marrow or peripheral blood. The appearance of both was consistent with toxic leukopenia in the recovery phase. On Oct. 20 the leukocyte count was 5,100, almost the same as before treatment.

COMMENT

Except for the headache and throat discomfort previously mentioned, the patient felt well. At no time was there any fever, adenopathy, or other symptoms suggestive of a leukopenia-producing type of infection. No drugs other than the fumagillin and vitamins were taken. There was a history of fungus infection of the hands and feet that might account for the desquamation, but no active fungus disease was detected. No exposure to toxic chemicals or radioactive materials was discovered.

The dosage used was well below the maximum recommended at that time, and in over 300 cases already reported most of the treatment schedules were as high or higher without untoward effects. Recently a slightly lower starting level was advised, with gradual increases, depending on clinical tolerance. In all cases, the toxic effects were primarily related to gastrointestinal irritation.

No data regarding absorption are available, but it appears that at therapeutic levels very little of the drug is absorbed. No effect on the normal flora of the intestine has been produced. In monkeys, Anderson and coworkers [1a] found the leukocytes either slightly increased or decreased, but no abnormally low decrease was recorded. Also, there was oftener an increase in hemoglobin and erythrocytes than a decrease. No effect on prothrombin activity was found, but there was some retention of sulfobromophthalein (Bromsulphalein), which was permanent in one animal. High dosage in dogs and cats leads to a depression of prothrombin activity and, in dogs, renal tubular degeneration and leukopenia.

It would seem, therefore, that fumagillin is capable of causing parenchymatous degeneration and depression of bone marrow activity when given in high enough dosage. At levels of 60 mg. per day or less in man, there is usually little absorption or very little toxic reaction to this compound. In the case described, the patient may have absorbed unusual quantities of, or have been particularly sensitive to, the drug with resultant depression of bone marrow activity. For these reasons, higher dosage than that recommended or repeated courses of this amebacide are not advisable unless frequent studies, especially for detection of liver and bone marrow toxicity, are made.

SUMMARY

A case of mild leukopenia following treatment of amebiasis with fumagillin is reported. Since this is a rare occurrence, further trial of this apparently well-tolerated and effective drug is justified, but sensitivity should be suspected and proper precautions taken.

601 Hermann Professional Bldg. (5).

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[1] (*a*) Anderson, H. H., and others: Fumagillin in Amebiasis, Am. J. Trop. Med. **1:** 552 (July) 1952. (*b*) Killough, J. H.; Magill, G. B.; and Smith, R. C.: Treatment of Amebiasis with Fumagillin, Science **115:** 71 (Jan. 18) 1952. (*c*) McHardy, G.; Bechtold, J. E.; Welch, G. E., and Browne, D. C.: Fumagillin as an Amebacide, South. M. J. **46:** 428 (May) 1953.

COUNCIL ON PHARMACY AND CHEMISTRY

The following abstract of recent nomenclature decisions of the Council is authorized for publication.

R. T. Stormont, M.D., *Secretary.*

NEW GENERIC AND BRAND NAMES RECOGNIZED BY THE COUNCIL

Protoveratrines A and B for the purified mixture of the ester alkaloids, protoveratrines A and B, derived from Veratrum album: Veralba (Pitman-Moore Company)

Protoveratrine A and B Maleates for that salt of the ester alkaloids, protoveratrines A and B: Provell Maleate (Eli Lilly & Company)

Rauwolfia for the powdered whole root of Rauwolfia serpentina: Raudixin (E. R. Squibb & Sons)

Trihexyphenidyl Hydrochloride for 3-(1-piperidyl)-1-phenyl-1-cyclohexyl-1-propanol hydrochloride: Artane Hydrochloride (Lederle Laboratories Division)

REPORT OF THE COUNCIL

The Council has authorized publication of the following report.

R. T. Stormont, M.D., *Secretary.*

DERMATOLOGICAL PREPARATIONS OF ACCEPTED ANTIHISTAMINE DRUGS OMITTED FROM N.N.R.

At its annual meeting in 1952, the attention of the Council was focused on the problem of cutaneous sensitivity to the antihistamine drugs. It was recalled that a similar problem previously arose in connection with the topical use of the sulfonamides and penicillin. This led the Council to withdraw its acceptance of topical forms of these anti-infective agents, because their therapeutic value is outweighed by the high incidence of sensitivity reactions and because they are effective against local infections when administered systemically.[1] Accordingly, the Council authorized a restudy of the use of certain antihistamine creams and ointments that had been accepted for the relief of itching dermatoses, especially those having an allergic basis.

The opinions of some leading dermatologists from various sections of the country were polled on the following questions: 1. In your opinion are the reactions on the skin to the use of ointments and creams containing antihistaminic drugs few, frequent, or many? 2. State the preparations causing the most disturbance in your experience in practice and in the clinic. 3. Do you believe the adverse effects from these agents outweigh their usefulness?

The replies to these questions are almost unanimous in concluding: (1) that numerous cases of dermatitis have appeared coincidentally with the use of such preparations, (2) that although this has not been attributed to all of the antihistamine drugs, they are potentially capable of producing cutaneous sensitivity, and (3) that such adverse effects can be considered to outweigh their usefulness at the present time. The majority of those consulted indicated that they either have limited the use of these preparations, or have abandoned them entirely. Regarding topical therapy in general, the suggestion was offered that until all important drugs or those commonly used for internal (systemic) administration are proved to have a low index of sensitization, they should not be employed topically.

In accordance with the foregoing opinions of experienced dermatologists, based upon observations that have accumulated since topical forms of antihistamine drugs were accepted, the Council concluded that, although some of them apparently have been helpful in relieving certain types of pruritus, the risk of contact dermatitis now overshadows their possible efficacy for that purpose and that further evidence is required to establish their usefulness.

On the basis of the foregoing conclusions, the Council voted to discontinue the acceptance of dermatological preparations of all antihistamine drugs, to omit from "New and Nonofficial Remedies" all currently accepted products in that category, and to revise appropriately the affected N.N.R. monographs and the general statement on histamine-antagonizing agents.

NEW AND NONOFFICIAL REMEDIES

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application.

R. T. Stormont, M.D., *Secretary.*

Bacitracin (See New and Nonofficial Remedies 1953, p. 45).

Pfizer Laboratories, Division of Chas. Pfizer & Co., Inc., Brooklyn.

Soluble Tablets Bacitracin: 5,000 units.

Butabarbital Sodium (See New and Nonofficial Remedies 1953, p. 251).

The Bowman Bros. Drug Company, Canton, Ohio.

Elixir Butabarbital Sodium: 473 cc. and 3.78 liter bottles. A flavored alcohol solution containing 6.6 mg. of butabarbital sodium in each cubic centimeter.

Tablets Butabarbital Sodium: 16 and 32 mg.

Diethylstilbestrol-U.S.P. (See New and Nonofficial Remedies 1953, p. 368).

The Bowman Bros. Drug Company, Canton, Ohio.

Tablets Diethylstilbestrol: 5 mg.

Estrogenic Substances, Conjugated (See New and Nonofficial Remedies 1953, p. 364).

Premo Pharmaceutical Laboratories, Inc., South Hackensack, N. J.

Tablets Estrifol: 1.25 mg.

Hexachlorophene (See New and Nonofficial Remedies 1953, p. 54).

The Bowman Bros. Drug Company, Canton, Ohio.

Surgical Soap Hexachlorophene: 473 cc. and 3.78 liter bottles. A soap containing 2% hexachlorophene (anhydrous basis).

Central Chemical Company, Inc., Kansas City, Mo.

Liquid Soap Surgi-Cen: 3.78, 18.9, 56.7, 113.4, 132.4, and 208.1 liter containers. A soap containing 1% hexachlorophene.

Hexamethonium Chloride (See New and Nonofficial Remedies 1953, p. 241).

Ciba Pharmaceutical Products, Inc., Summit, N. J.

Syrup Esomid Chloride: 473 cc. bottles. A syrup containing 62.5 mg. of hexamethonium chloride in each cubic centimeter. Preserved with 0.1% sodium benzoate.

Tablets Esomid Chloride: 0.25 gm.

Sodium *p*-Aminosalicylate (See New and Nonofficial Remedies 1953, p. 91).

Intermedico Corporation, Floral Park, L. I., N. Y.

Tablets Pasmed Sodium: 0.5 gm.

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[1] Sulfonamides for Local Application Deleted from N.N.R., report of the Council on Pharmacy and Chemistry, J. A. M. A. **135**: 157 (Sept. 20) 1947. Penicillin Preparations (Troches, Ointments and Ophthalmic Ointments) for Topical Application Omitted from N.N.R., Annual Reprint of the Reports of the Council on Pharmacy and Chemistry, Chicago, A.M.A., 1950, p. 39.

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THE ST. LOUIS MEETING

In the December 26 issue of THE JOURNAL will be an abstract of the proceedings of the House of Delegates of the American Medical Association at the December, 1953, meeting of the Association. In the organization section of the current issue are several pages of pictures taken at this meeting. In time, the complete proceedings will be available in a booklet that will be obtainable from the office of the Secretary of the Association. In the meantime, mention of a few of the highlights may be of interest to the physicians who did not attend this seventh annual Clinical Meeting.

The House of Delegates received reports from various officers of the Association and standing committees of the House. It also was addressed by the President, Edward J. McCormick of Toledo, Ohio, by the Speaker, James R. Reuling of Bayside, N. Y., and by several guests, including Chester Keefer of Boston, special assistant to Mrs. Oveta Culp Hobby of the Department of Health, Education, and Welfare. After the presentation of reports and resolutions and their consideration by reference committees, the House took important actions on questions relating to social security, voluntary health insurance, medical ethics and unethical practices, medical education, hospital accreditation, and military affairs. Consideration also was given to the supply of interns, the commission on intergovernmental relations, scope of the word "rehabilitation," rural health, hospital-physician relations, simplification of membership classifications, and the training of chiropractors and naturopaths. It also honored the 1953 "General Practitioner of the Year," Joseph I. Greenwell of New Haven, Ky. This was reported in the December 12 issue of THE JOURNAL.

The House passed a resolution reaffirming its opposition to the compulsory coverage of physicians under the Old Age and Survivors Insurance provisions of the Social Security Act and advocated passage of the Jenkins-Keogh bills now pending in Congress. These bills were described as providing for "the development of a voluntary pension program which is equitable, free from compulsion, and satisfies the retirement needs of physicians."

The reference committee report adopted by the House read in part:

"The purpose of these bills is to eliminate the discrimination and inequities which exist under present tax laws by extending the tax deferment privilege to the country's ten million self-employed and also to millions of employees who are not covered by pension plans. The purpose of the resolution is to reaffirm our support of the voluntary pension program provided in the Jenkins-Keogh bills and to reaffirm our strong opposition to the extension of compulsory coverage of physicians and other self-employed persons under Title II of the Social Security Act."

The same committee report urged continued action to obtain passage of the Bricker amendment (S. J. Res. 1) and approved the principle of legislation that would reduce or remove the limitation on the deduction of medical and dental expenses for income tax purposes. It also opposed any further extension of the "Doctor-Draft" law beyond the present expiration date of June 30, 1955 The report read in part "your Committee feels strongly that there should be no further extension of the 'Doctor Draft' Law. We feel that the legislation is discriminatory and urge the Committee on Legislation and the Board of Trustees to actively oppose any further extension."

The House acted to accelerate the development of voluntary health insurance by passing a resolution requesting the Council on Medical Service to proceed immediately with a special study of the problems of catastrophic coverage and coverage for retired persons. The Council was asked to present its findings and recommendations to the House not later than the 1954 Clinical Meeting. According to the resolution adopted: "There are two large groups of citizens for whom improved coverage could be offered under present prepaid medical care plans, namely: (a) those individuals who suffer catastrophic or long-continued and highly expensive illness and whose financial resources are not adequate to meet the cost thereof and (b) those citizens who have retired and are living on small incomes and who are not eligible under presently existing public or private plans." The resolution emphasized the medical profession's "responsibility to make every effort to promote such prepaid medical coverage for all citizens whose circumstances make them eligible."

Another resolution on voluntary health insurance stated: "the American Medical Association condemns all insurance contracts which classify any medical service as a hospital service." The resolution affirmed previous actions of the House defining pathology, radiology, anesthesiology, and physiatry as medical services.

The House approved a revision of one section of the Principles of Medical Ethics of the American Medical Association that clarifies the relationship of physicians to all forms of public information mediums. The revision had been developed by the Council on Constitution and By-Laws and will appear in the revised Principles of Medical Ethics.

In an effort to solve the publicity problems resulting from unethical practices by a small minority of doctors, the House referred to the Board of Trustees a resolution calling for appointment of a special committee with broad professional representation to study all aspects of the problems. The Board was asked to study and implement the intent of the resolution and to report its findings to the House at the June, 1954, meeting in San Francisco.

To clarify misunderstandings among physicians regarding the rules and regulations of the Joint Commission on Accreditation of Hospitals, especially as they concern the role of the department of general practice in a hospital, the House adopted the following resolution:

"That this House of Delegates of the American Medical Association request the Joint Commission on Accreditation of Hospitals to publish an article, or series of articles, in the Journal of the American Medical Association and other official publications circulating among the medical and hospital professions, to acquaint the medical-hospital profession with the regulations, bylaws and their interpretations, and

"That the Commission clarify the methods by which an aggrieved hospital or its staff may appeal a decision with which they are not in agreement."

In the field of medical education, a fourth grant of $500,000 was made by the American Medical Association to the American Medical Education Foundation for financial aid to the nation's medical schools. The foundation reported that its 1953 income now totals $1,174,000 and that the number of contributors now is more than double the total in 1952. Dr. Louis H. Bauer of New York, immediate past president of the American Medical Association, was elected president of the foundation just prior to the opening of the Clinical Meeting. He succeeds the late Dr. Elmer L. Henderson of Louisville, Ky., also a past president of the American Medical Association.

At the opening session of the House, Dr. McCormick in his presidential address made a strong appeal to the nation's physicians for "action that will further full confidence of the public in our profession."

"Good public opinion cannot be bought," he declared. "It must be earned through exemplary conduct and genuine service in the public interest. Whatever money the A. M. A. and its constituent societies spend for public education and public relations is wasted unless individual physicians take wholehearted interest in assuring the success of these ventures."

Dr. Reuling, emphasizing that much serious work remains to be done, warned: "times are just as troubled as when we had blanket bills before Congress which would have socialized the practice of medicine." Dr. Keefer told the House, "the voluntary way has been the most successful in the past and there is no reason to believe it will not continue to be in the future." He urged maximum effort, cooperation, and leadership on the community level. The addresses by Drs. McCormick, Reuling, and Keefer will appear in full in the December 26 issue of THE JOURNAL.

Just prior to the Clinical Meeting the Joseph Goldberger award for outstanding contributions in the fields of clinical nutrition was presented to Dr. *James Somerville* McLester of Birmingham, Ala., a practicing physician for more than 50 years. The award was presented by the American Medical Association through its Council on Foods and Nutrition.

On the scientific side of the Association's meeting were the many excellent exhibits and papers. Too numerous to mention, they can be regarded, nevertheless, as of the caliber anticipated when a program of the meeting was published in THE JOURNAL, October 31. Some of the papers will be published in THE JOURNAL. All were developed with the general practitioner and his practical clinical problems in mind.

The next meetings scheduled for the American Medical Association will be held as follows:

1954 Annual Meeting, June 21-25, San Francisco
1954 Clinical Meeting, November 30-December 3, Miami, Fla.
1955 Annual Meeting, June 6-10, Atlantic City, N. J.
1955 Clinical Meeting, November 29-December 2, Boston
1956 Annual Meeting, June 11-15, Chicago

It is not too early to begin plans for attending some, preferably all, of these meetings.

PERIODIC HEALTH EXAMINATIONS

The growing tendency to recommend an annual physical examination has aroused a great deal of controversy in this country and abroad. As is the case with most arguments, resolution must await the accumulation of facts. Toward this end, encouraging steps are being taken. Baker and co-workers[1] have analyzed the results of 2,178 examinations, including follow-ups in 1,350 persons, mostly business executives, who had no physical complaint. Many of them were sent for examination at the expense of the firms by which they were employed. This indication that corporations are recognizing that the toll of death and disability in their executives is excessive and that something should be done in the way of prevention is in itself encouraging. Following are questions relating to the periodic examination that still need to be answered.

1. What shall constitute a medical "overhaul" in a person with no complaints? In discussing this question Abrahams,[2] a staunch opponent of complete periodic medical examinations, states correctly that it would be absurd to do all the known tests on every subject. That is precisely why Baker and his co-workers would like to see a standardized examination agreed on. Such a standardization would have the advantage that the reports from many observers could be compared and combined for statistical analysis. Abrahams further suggests that rather than an elaborate battery of laboratory and roentgenologic tests a thorough and skillful interrogation of the patients covering each organ system would save both time and money and perhaps accomplish as much. Few, if any, proponents of the annual physical check-up would accept such a limited procedure, valuable as it might be as an essential part of a routine examination. This is indeed a knotty problem, and final agreement on which tests must be included and which may be omitted will

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[1] Baker, J. P., and others: Executive Health Examinations, South. M. J. 46: 984-988 (Oct.) 1953.

[2] Abrahams, A.: Periodic Medical Overhaul, Lancet 2: 670-671 (Sept. 26) 1953.

not be easily arrived at. Most authorities agree, however, that in subjects over 45 years of age a roentgenogram of the chest, a rectal digital examination, and an electrocardiogram should be included.

2. Is reassurance of a patient after a routine check-up that he has no disease valid? The answer to this question (posed by Abrahams) is: No, not always. No physician is omniscient, and the same question could be asked regarding a patient who seeks to find out whether his epigastric distress indicates a malignant disease or whether his precordial pain indicates heart disease. In how many patients after examination and reassurance has unmistakable evidence of cancer or coronary occlusion subsequently and sometimes within only a few months developed? This question then would seem not to be entirely justified, but it is being asked by those who would do away with periodic check-ups.

3. Do the results of complete medical examination in a large group of patients justify the outlay of time and money and the discomfort to the patients? For this there are some statistics. Of the 1,350 subjects in Baker's series, only 167 were found to have no disease. The authors included as disease only those conditions that were found to be producing symptoms (although not severe enough to have caused the patient to seek medical aid) or which threatened future health. As a result, although dental caries and pes planus were commonly observed the former was considered a disease in only 10 patients and the latter in none. The diseases most commonly found were obesity, anemia, hypertension, osteoarthritis, and hypothyroidism. In addition, many early malignant tumors and precancerous lesions were found and treated. These authors, besides trying to determine the value of these examinations to the patient, are attempting to rate patients as good or poor risks from the standpoint of the interested business firm; for example, a patient who has a poor prognosis would not be considered as a risk to his firm if he were close to the age of compulsory retirement. In another study Portis and his associates[3] discovered a relative hypoglycemia in nearly half of a group of business executives under 50 whose only complaint was chronic fatigue, and of 55 executives in this age group sent for a check-up by their firms only 3 were found to be free of disease; 16 had hypertension and 14 were overweight. These figures would indicate that health examinations when carefully performed by a group of clinicians interested in the prevention of disease can be decidedly worth while.

4. Is it wise to place emphasis on disease instead of health in educating the public? This question (again posed by Abrahams) should not be cast aside lightly. To be constantly concerned about whether one has a disease is in itself a disease and one that may be incapacitating. There is much to be said for enjoying the feelings of well-being without worry. For every person of this temperament who is suddenly struck down by a serious illness there are hundreds who go on enjoying a fuller life primarily because they do not worry over the state of their health; in fact, such an attitude in itself does much to prolong life. What is needed then in patients is the ability to reach a happy medium between lack of normal concern and extreme introspection, and this requires a mature outlook, which is not easily acquired.

THE PLACE OF FORCEPS IN MODERN OBSTETRICS

Jeffcoate,[1] in reviewing the place of forceps in modern obstetrics, calls attention to the fact that early objections to the use of forceps based at first on prejudice or vested interest were quickly justified by the abuse of this method of extraction. Although the use of forceps has regained great popularity, this can be maintained only by the most judicious application of the principles of good obstetrics. Maternal and fetal mortality have been reduced by a combination of advances in medicine (chemotherapy, etc.) and advances in obstetric technique. In hospital deliveries the use of forceps has almost trebled in 25 years. This increase has been at the expense of spontaneous labor rather than of cesarean section and has been an important factor in the reduction of mortality referred to. As Jeffcoate so aptly puts it, "babies previously born dead with forceps are now being delivered alive by cesarean section, while those stillborn as a result of spontaneous delivery are now extracted alive with forceps."

The risks of using forceps have been reduced by changes in technique and changes in indications. Changes in technique include the discarding of all forms of axis traction instruments; substitution of skill for force in exerting traction; the use of episiotomy; correction of the position of the fetal head before or after application of the forceps; the use of local analgesia in place of general anesthesia; and, most important of all, accurate placement of the blades. Even more important than these changes were the changes in indications. The general condemnation of high forceps extractions is extending to midforceps extractions, which should never be attempted in home deliveries. In hospital deliveries all midforceps operations should be regarded as trial operations with the clear understanding that should this maneuver fail a cesarean section will be performed without delay. If this is understood before the forceps are applied, there will be less tendency for the operator to try to force a vaginal delivery; he may abandon this effort, switch to abdominal delivery without loss of face, and thereby in many cases save the life of the baby and perhaps of the mother. The performance of a cesarean section after a trial application of forceps is not the hazardous procedure it was before the discovery of modern chemotherapeutic agents. It is important in determining the indications for the use of forceps to anticipate rather than wait for signs of maternal exhaustion or fetal asphyxia. Uterine inertia is no longer a contraindication to the application of forceps, because postpartum hemorrhage can be effectively controlled with ergonovine. The frequent, almost routine use of forceps on an after-coming head has done much to reduce fetal mortality in breech deliveries. Forceps may also be legitimately used to extract the soft head of the premature infant and thereby reduce the danger of cerebral trauma.

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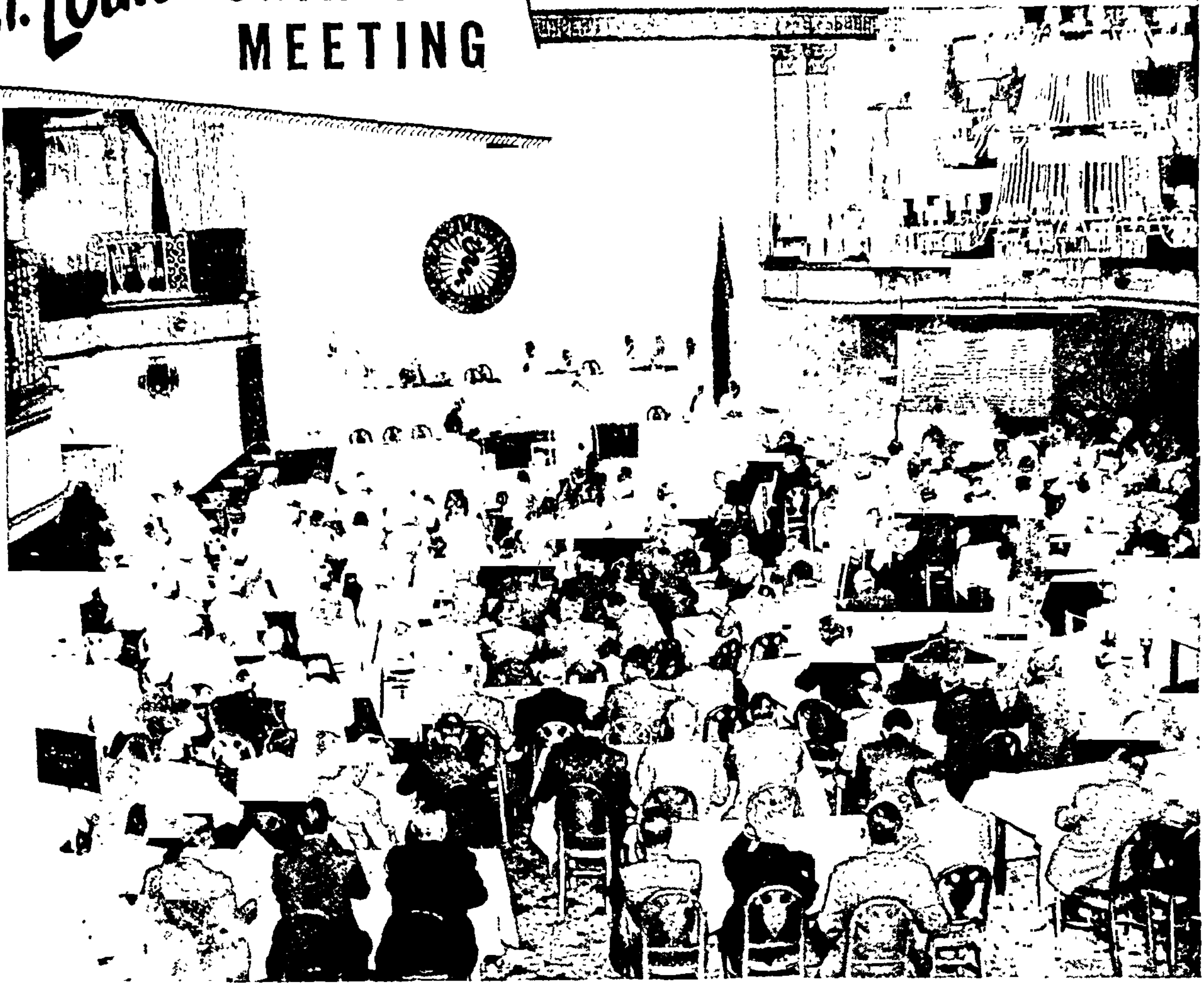
[3] Portis, S. A.; Zitman, I. H., and Lawrence, C. H.: Exhaustion in the Young Business Executive, J. A. M. A. 144: 1162-1166 (Dec. 2) 1950.

[1] Jeffcoate, T. N. A.: The Place of Forceps in Present-Day Obstetrics, Brit. M. J. 2:951-955 (Oct. 31) 1953.

St. Louis CLINICAL MEETING



Above: The House of Delegates in session in the Jefferson Hotel, Tuesday, Dec. 1, 1953.

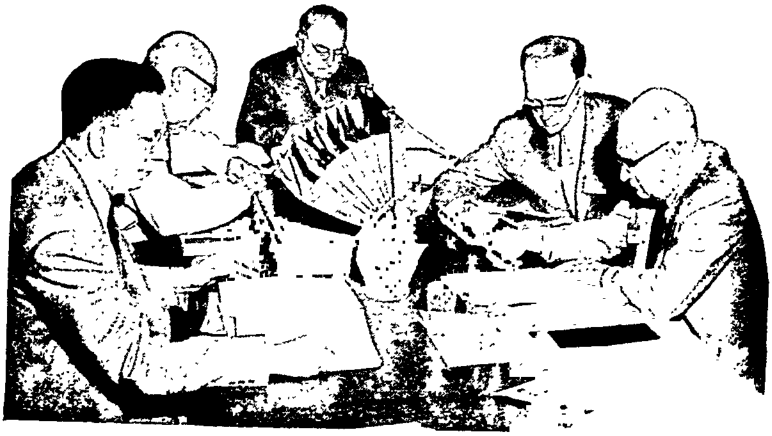
Left: Howard A. Bennett (left) and Roger Fleming (right), guest panelists at the A.M.A.'s Sixth Medical Public Relations Conference, were welcomed by Dr. Edward J. McCormick, A.M.A. President. Mr. Bennett is manager of economic education of the plant community relations division, and Mr. Fleming is secretary-treasurer of the American Farm Bureau Federation.

Auto Crash Injury Research Program, an exhibit on traffic safety, is discussed by Sergeants F. W. Shadwell, of the Missouri Highway Patrol, and E. C. Paul and J. B. Klein, both of the Indiana State Police.

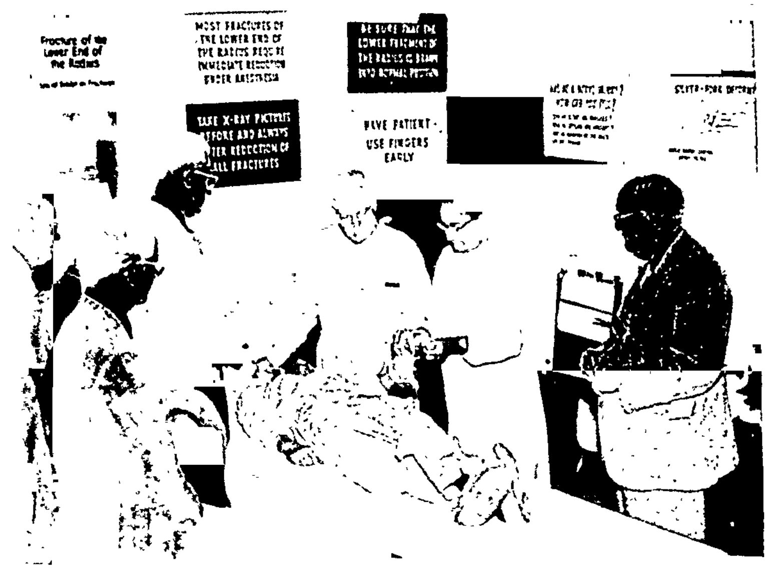
Below: The A.M.A. Council on Medical Service.

Left: Advance films were made Wednesday in Kiel Auditorium under the direction of Charles Christensen, National Broadcasting Company, by cameraman Bill Burch for the March of Medicine nation-wide TV program Thursday night from St. Louis.

Below: The Judicial Council in session.



St. Louis CLINICAL MEETING


Fracture of the Lower End of the Radius
MOST FRACTURES OF THE LOWER END OF THE RADIUS REQUIRE IMMEDIATE REDUCTION UNDER ANESTHESIA
BE SURE THAT THE LOWER FRAGMENT OF THE RADIUS IS BROUGHT INTO NORMAL POSITION
TAKE X-RAY PICTURES BEFORE AND ALWAYS AFTER REDUCTION OF ALL FRACTURES
HAVE PATIENT USE FINGERS EARLY

Above: Dr. Joseph Greenwell, New Haven, Ky., who was chosen as the 1953 General Practitioner of the Year, with former winners of this award. (Standing, left to right) Drs. Andy Hall, Mt. Vernon, Ill., William L. Pressly, Due West, S. C., and John M. Travis, Jacksonville, Texas.

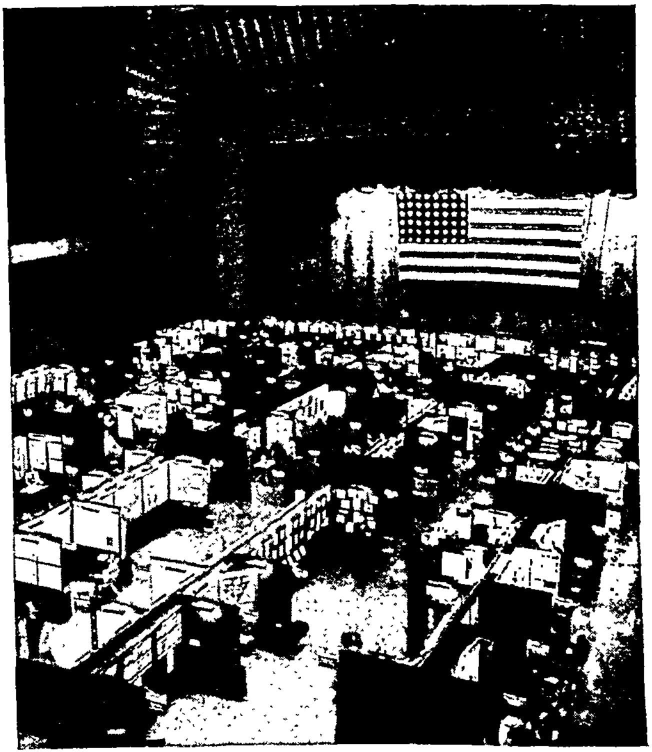
Above: Leis were flown by the Hawaiian Medical Association to the ladies attending the Woman's Auxiliary luncheon in the Hotel Statler. The flower-bedecked ladies are (left to right) Mrs. A. B. Jones, St. Louis Auxiliary President, Miss Beulah Schacht, *newspaper columnist and guest speaker, and* Mrs. Martin Glaser, chairman of the luncheon committee.

Left: In the fracture exhibit Dr. John J. Milroy, Waukegan, Ill., and Dr. Morris E. Goldman, Lewiston, Maine, apply a cast to a simulated fracture of the radius.

Below left: A heartwarming exhibit illustrating progress made by youngsters with physical therapy provided by the National Society for Crippled Children. Therapist Jo Ann Logan of the St. Louis Society encourages Tommy in the use of handrails.

Below: The Scientific Exhibit in the vast arena of Kiel Auditorium.

EXTREMITIES
SKILLS
FOR WALKING
Demonstrations BY THE STAFF of the St Louis Society for Crippled Children ST. LOUIS, MISSOURI



MEDICAL NEWS

ARKANSAS

Cancer Bequests.—By the will of the late Birdie Sparks, Little Rock, the University of Arkansas Medical Center has received $20,000 for purchase of equipment and materials, and the St. Vincent Tumor Clinic, $1,700.

Society News.—The first annual meeting of the Arkansas Obstetrical and Gynecological Society was held at the Hotel Marion in Little Rock, Oct. 31. Dr. William H. Masters, associate professor of obstetrics and gynecology, Washington University School of Medicine, St. Louis, discussed "The Male as an Infertile Problem" and "The Role of Habitual Abortion in Infertility."

Personal.—Dr. Arthur C. Curtis, director, division of tuberculosis control, Arkansas State Health Department, has been assigned as an officer of the U. S. Public Health Service to a two year term of duty at Jimma, Ethiopia. Dr. Clifford H. Cole, director, division of venereal disease control, will act also as the director of the division of tuberculosis control during Dr. Curtis' absence.

Dr. Ellis, Distinguished Citizen.—Dr. Edward F. Ellis of Fayetteville was honored on his 90th birthday by the Washington County Historical Society, which presented a "Distinguished Citizen" citation to him. Dr. Ellis is a past president of the Arkansas Medical Society and a former member of the State Board of Medical Examiners during two gubernatorial administrations. He has served as chief-of-staff of the Fayetteville City Hospital. A charter member of the board of directors of the First National Bank, he was recently reelected to his 50th annual term on the board. He was a member of the Fayetteville school board for 15 years. The Ellis Room in the library of the University of Arkansas Medical School houses a professional library of more than 1,100 books presented by Dr. Ellis.

CALIFORNIA

Study of Plague Vectors.—The School of Tropical and Preventive Medicine of the College of Medical Evangelists at Loma Linda has received $32,300 in grants from the Army Surgeon General's office to continue a study of the control of plague vectors under field conditions. The study began June 1, 1951, and will end May 31, 1954. The appropriation brings the total of grants to $76,500.

Research Laboratory at Los Alamos.—The Los Alamos Scientific Laboratory of the University of California announces completion of its new $1,870,000 health research laboratory. The new building contains laboratories, offices, shop, stockroom, rooms for exposing animals to radiation, and air-conditioned animal quarters. The industrial hygiene group and the biological and medical research group will be housed in the new building.

Infectious Encephalitis.—According to the Department of Health, Education, and Welfare, U. S. Public Health Service, a total of 17 cases of infectious encephalitis in human beings, with laboratory confirmations, had been reported this year in California as of Oct. 24. Seven were the St. Louis type of infection, and the remainder were western equine. All but four occurred in the central valleys, with western equine type of infection in Sacramento Valley and the St. Louis type in the San Joaquin. Of 386 pools of mosquitoes examined from Kern and Fresno Counties, 47 showed the presence of St. Louis (18) and western equine (29) types of virus.

Dr. Pierce Honored.—On Nov. 2 in San Diego, Dr. Georg Warren Pierce, vice-president, board of trustees, St. Franci Memorial Hospital, San Francisco, was guest of honor at dinner given by the American Society of Plastic and Reconstructive Surgery, at which he was presented with th "Special Honorary Citation of the Society." Dr. Pierce i consulting plastic surgeon at Children's Hospital, U. S. Publi Health Service Hospital, Letterman Army Hospital, and th Southern Pacific General Hospital. He is a past president the American Association of Plastic Surgeons and the Cal fornia Society of Plastic Surgeons; past vice-president, Amer can Society of Plastic and Reconstructive Surgery; honorar member, British Association of Plastic Surgeons; member the California Academy of Medicine; and an original membe of the American Board of Plastic Surgery.

CONNECTICUT

Society News.—At the Nov. 24 meeting of the Connectic Rheumatism Society in Waterbury, Dr. Hans Waine, medic director of the New England Arthritis and Rheumatism Assoc ation and lecturer at the Harvard Medical School, Bosto discussed "Management of the Rheumatoid Arthritis Patie in General Practice." Dr. Stanley H. Osborn, Hartford, commissioner of health of the State of Connecticut and honorar president of the society, pointed out the increased faciliti made available in recent years.

IDAHO

Personal.—Dr. Joseph G. Wilson, Moscow, has been chose president of the Idaho Institute of Christian Education, Inc of which he has been a board member for several years.

General Practitioners Scientific Session.—The first annu scientific session of the Idaho chapter of the America Academy of General Practice was held at Twin Falls, Oct. 2 under the presidency of Dr. Franklin C. David, Boise. Speakers included three members of the faculty of the Universit of Utah College of Medicine in Salt Lake City: Dr. Emil G Holmstrom, professor of obstetrics and gynecology, discusse "The Acute Abdomen During Pregnancy" and "Diagnosi and Treatment of Leukorrhea"; Dr. William H. Moretz, associate professor of surgery, presented "Advances in Managemen of the Acute Abdomen" and "Injuries and Infections of th Hand"; and Dr. Harold Brown, associate professor of medicine, "Antibiotic Therapy" and "Management of Congestiv Failure." Drs. J. Woodson Creed and Charles R. McWilliams Twin Falls, conducted a clinical pathological conference. Th program was arranged by Dr. Orvid R. Cutler, Preston.

KENTUCKY

Dr. Coleman's Day.—Dr. Clarence T. Coleman, four-tim mayor of Frankfort and a practicing physician for more tha 40 years, was honored at a celebration of "Doctor Coleman' Day" by the people of Franklin County on his 71st birthday Gov. Lawrence W. Wetherby and other state officials joine in paying homage to Dr. Coleman on the special day officiall proclaimed by the Franklin Fiscal Court. An estimated 1,000 persons participated in the festivities.

LOUISIANA

Society News.—The radiologists of Louisiana have reorganized their association and changed its name to the Radiological Society of Louisiana. The officers are Dr. Henry M. Duhe, New Orleans, president, Dr. Granville M. Riley, Shreveport, vice-president, and Dr. Joseph T. Brierre, New Orleans, secretary-treasurer.

Portrait of Ernest Faust.—Ernest Carroll Faust, Ph.D., has completed a quarter century as professor of parasitology in the Tulane University of Louisiana School of Medicine. His

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Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

portrait, sponsored by associates and students, was presented to the school following a eulogy by Dr. Henry F. Meleney, research professor of medicine at Louisiana State University, who served with Dr. Faust on the faculty of the Peking Union Medical College of China. According to a release from the university, among other accomplishments cited were authorship of 281 papers and several books, including the first English text on human worm infections, demonstration that gentian violet taken by mouth eliminates liver fluke in its early stages, the first demonstration that diet is an important factor in amebiasis, and work leading to the first demonstration of the effect of antibiotics in amebiasis, and extensive work with the army to control tropical disease during World War II. Dr. Joseph S. D'Antoni, a member of the Tulane faculty, presented the portrait to the school. Dr. Maxwell E. Lapham, dean, accepted the portrait for the school of medicine.

MAINE

Society News.—At its meeting in Augusta, Oct. 21, the Maine Academy of General Practice elected Dr. Howard H. Milliken, Hallowell, president, Dr. Francis A. Fagone, Portland, president-elect, and Dr. Clyde I. Swett, Island Falls, retiring president, a member of the organization's board of directors for a three year term.

MARYLAND

Fellowship in Medicolegal Pathology.—The division of legal medicine, University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, has established fellowships in medicolegal pathology, open to American citizens, graduates of Class A medical schools with a minimum of one year of formal training in pathology. A basic stipend of $2,500 annually is provided. Inquiries should be directed to Dr. Russell S. Fisher, professor of legal medicine, 700 Fleet St., Baltimore 2.

Exhibit on History of Medicine.—Opening ceremonies for this exhibit, which will continue through Dec. 31, were held Nov. 16 at the Maryland Historical Society Building, 201 W. Monument St., Baltimore. The principal address was by Dr. Thomas Parran, dean, Graduate School of Public Health, University of Pittsburgh, and former Surgeon General, U. S. Public Health Service. Among the items on display are early medical appliances, original manuscripts, portraits of early physicians, views of hospitals, and dental and pharmaceutical materials of an earlier day. The exhibit is open to the public.

Dr. Gottschalk Goes to Ohio.—Dr. Louis A. Gottschalk, Bethesda, research psychiatrist for the Clinical Center of the National Institute for Mental Health, has been named associate professor of psychiatry in the University of Cincinnati College of Medicine. He will also serve as attending psychiatrist at Cincinnati General Hospital and as supervisor in the Central Clinic of the Community Chest. Dr. Gottschalk was previously affiliated with Barnes Hospital in St. Louis, the U. S. Public Health Service Hospital in Ft. Worth, Texas, and Michael Reese Hospital in Chicago. His wife is Dr. Helen C. Reller Gottschalk.

Golden Anniversary.—The Montgomery County Medical Society, celebrating its golden anniversary, was host to physicians from all of Maryland at a meeting of the Medical and Chirurgical Faculty of the State of Maryland at the National Institutes of Health in Bethesda, Oct. 6. Dr. William S. Murphy, Rockville, president of the county society, and Dr. Maurice C. Pincoffs, Baltimore, president of the state society, welcomed the guests. An account of the history of the society was given by one of its oldest members, Dr. Jacob W. Bird, Sandy Spring, who was secretary of the society for 28 years. The general meeting concluded with an address by Dr. Leonard A. Scheele, Washington, D. C., Surgeon General of the Public Health Service, who discussed "Medical Research, the Physicians, and Public Health." Following the meeting, seminars were presented by staff members of the National Institutes of Health.

MASSACHUSETTS

Personal.—Dr. Shields Warren, Newton, pathologist for the New England Deaconess Hospital, Boston, since 1927 and director of the Deaconess Cancer Research Institute, has been elected chairman of the executive committee of the Boston University board of trustees. Dr. Warren has been trustee of the university since 1938 and a member of the executive committee for the past 11 years.——Dr. Douglas A. Ross, formerly of Cambridge, Mass., has been appointed assistant professor, division of physiology, University of Tennessee Medical Units, Memphis.——Dr. Henry R. Viets, Boston, recently gave a lecture, "William Smellie (1697-1763) and His Influence on Obstetrics and Medical Teaching" at the University of Texas Medical Branch, Galveston, and also at the University of Oklahoma School of Medicine, Oklahoma City.

Study of Maternal Deaths.—The Massachusetts Medical Society announces that its committee on maternal welfare, which will begin a new five year program in 1954, is redoubling its efforts to study all maternal deaths in the state. Physicians are urged to inform the committee by telephone immediately of any maternal death. In the western part of the state, call Dr. Arthur F. G. Edgelow, 76 Maple St., Springfield (telephone, Springfield 4-5926); in the eastern section, Dr. John F. Jewett, 319 Longwood Ave., Boston (telephone BEacon 2-3911), Dr. Benjamin F. Cornwall, Salem, Dr. Joel M. Melick, Worcester, or Dr. Robert H. Goodwin, New Bedford. The committee points out that a postmortem examination should be requested in every case. If a pathologist is not locally available, the committee will supply this service without charge.

MISSISSIPPI

Dr. Johansen Honored.—Dr. Frederick A. Johansen, former medical officer in charge of the U. S. Public Health Service Hospital at Carville, La., now retired and living at Long Beach, was an honor guest of the American Legion Auxiliary at the national convention in St. Louis, where he received a distinguished service plaque bearing the following inscription: "Dr. Frederick A. Johansen—in Appreciation of his Devoted Service to the Sick and Unfortunate and his Furtherance of a Better Understanding of Hansen's disease and its Treatment. Presented at the 1953 National Convention, St. Louis, Mo., American Legion Auxiliary."

MISSOURI

Drs. Robert A. and Carl V. Moore to Assume New Posts.—Dr. Robert A. Moore, dean of the Washington University School of Medicine, St. Louis, has been named vice-chancellor in charge of the schools of the health professions at the University of Pittsburgh, which is embarking on a multimillion dollar medical expansion program. He will coordinate teaching, research, and patient care in the hospitals, clinics, and professional schools of medicine, dentistry, pharmacy, nursing, and public health. His specific duties among other things include the development of adequate facilities, selection of distinguished faculties for the five professional schools, and the development of strong education and research programs. Dr. Moore will assume his responsibilities in Pittsburgh on a full-time basis next spring but will begin immediately to institute the program and to supervise further development of the center.

Dr. Carl V. Moore, professor of medicine at Washington University School of Medicine, will succeed Dr. Robert Moore on March 15. Dr. Carl Moore was assistant professor of medicine at Ohio State University, Columbus, from 1935 to 1938 and Research Council fellow in medicine. From 1944 to 1949 he was editor of the *Journal of Laboratory and Clinical Medicine.* He is governor for Missouri of the American College of Physicians and president of the American Society for Clinical Investigation for the year 1953-1954, and in 1946 was president of the Central Society for Clinical Research. He is chairman of the National Research Council

Committee on Blood and Related Problems, chairman of the hematology study section of the U. S. Public Health Service, and chairman of the medical advisory committee of the St. Louis Red Cross Blood Donor Center.

NEVADA

State Medical Election.—At the annual meeting in Elko the Nevada State Medical Association installed Dr. Dwight L. Hood, Reno, as president. Dr. William A. O'Brien, Reno, remains as secretary.

Personal.—"Dr. Eastman Night" was recently observed by the Lions Club of Carlin to honor the 80th birthday of Dr. Claude W. Eastman, who has been the district surgeon for the Southern Pacific and Western Pacific Railroads in Carlin for the past 30 years and has also served the community during this time.

NEW HAMPSHIRE

State Medical Election.—At the annual meeting of the New Hampshire Medical Society, Dr. Albert E. Barcomb, Rochester, assumed the presidency; Dr. Raymond H. Marcotte, Nashua, was elected president-elect; Dr. Louis C. Theobald, Exeter, vice-president; Dr. Leroy S. Ford, Keene, speaker of the House of Delegates; and Dr. James A. Ferguson, Lancaster, vice-speaker of the House of Delegates.

NEW JERSEY

Dr. Rake Appointed Research Professor.—Dr. Geoffrey William Rake, New Brunswick, has been named to a newly created position, research professor of microbiology in medicine in the schools of medicine and of veterinary medicine, at the University of Pennsylvania in Philadelphia. Dr. Rake was director of the Squibb Medical Division for 4 years, and for 12 years headed the microbiology division of the Squibb Institute for Medical Research. He was affiliated with Guy's Hospital in London before coming to the United States. He served as assistant and then instructor in pathology at Johns Hopkins Hospital, Baltimore, and later joined the staff of the Rockefeller Institute in New York. He received the gold medal in medicine of the University of London and has held the Beaney, Berlinger, Hilton, and Stokes prizes, and the Stokes Traveling Fellowship. He was one of the original members of the Virus and Rickettsial Study Section and the Syphilis Study Section of the U. S. Public Health Service.

New Jersey Neuropsychiatric Institute.—The name of the state Village for Epileptics at Skillman has been changed to the New Jersey Neuro-Psychiatric Institute. An active psychiatric treatment program has been inaugurated, and, as beds become available, new categories will be accepted for diagnosis, treatment, and rehabilitation. A treatment program for nonpsychotic alcoholics from the entire state will be centralized at the institute. Neurological patients, for whom no adequate provision has hitherto been available, will be accepted for diagnostic evaluation and promptly released, their treatment to be continued on an outpatient basis. Research at the institute will be under the guidance of the new director, Dr. Nolan D. C. Lewis. Training programs have been established in conjunction with Jefferson Medical College of Philadelphia and the University of Pennsylvania School of Medicine, Philadelphia. Aftercare clinics will follow the released epileptics, and traveling community clinics to assist local physicians with epileptic treatment problems and for screening admissions are being developed.

NEW YORK

Mental Health Campaign.—To promote its campaign for better mental health the New York State Department of Mental Hygiene recently presented at the State Fair in Syracuse a full-sized haunted house. The exhibit dealt with fear. The booklet "Haunted House" is profusely illustrated and discusses "ghosts" of the past, present, and future and the fears they give rise to. The department will supply copies of the booklet to organizations in New York State interested in the promotion of mental health. Single copies are available free to anyone. Requests should be addressed to the Department of Mental Hygiene, State Office Building, Albany.

State Alcoholism Services.—The Mental Health Commission has established grants in aid to sponsor three new alcoholism projects in Binghamton, New York City, and Rochester. A new part-time alcoholism clinic has been opened in Binghamton City Hospital. Under the sponsorship of the Home Term Court in New York City, a combined research service project has been initiated to study the incidence of alcoholism as a factor in marital discord. At Monroe County Penitentiary in Rochester, a 12 month study will be conducted by the sociology department of the University of Rochester under the auspices of the Tuberculosis and Health Association of Rochester and Monroe County to determine what part alcoholism plays in crime.

Award for Work on Xeroradiography.—At the recent annual meeting of the American Roentgen Ray Society in Cincinnati, its top award for the year, the silver medal, was presented to Drs. John F. Roach, professor of radiology at the Albany Medical College, and Herman E. Hilleboe, commissioner, New York State Department of Health, for their work on xeroradiography, a joint project of the State Department of Health, Albany Medical College, and Albany Hospital. Xeroradiography is a new process whereby x-ray images may be obtained through the electrostatic process without the use of films, darkrooms, or chemicals. Drs. Hilleboe and Roach are continuing their studies at the Albany Hospital, where they are conducting a clinical test of the method and comparing its accuracy with that of conventional x-ray films.

Vocational Counseling for Children with Cardiac Disorders.—The New York Heart Association and the American Heart Association are sponsoring a pilot study of educational counseling for children with heart disease or with a history of rheumatic fever, to be conducted at the Vocational Advisory Service, 432 Fourth Ave., New York 16. Nationally, it is estimated that at least 500,000 children of school age have heart disease. The study is planned to provide vocational counseling over a seven year period for a group of 360 children selected from the Manhattan area on the basis of medical, educational, and intellectual criteria. Information relative to the appraisal of these children and their vocational plans will be shared with the referring clinic or physician and other professional workers who are helping the child with his plans. Information may be secured from Edna M. Lawrence, Vocational Advisory Service, 432 Fourth Ave., New York 16; telephone MU 3-2121, Ext. 3. Dr. George Wheatley, vice-president, division of health and welfare, Metropolitan Life Insurance Company, is chairman of the project's planning committee.

Personal.—Dr. Richard E. Lee, assistant professor of clinical medicine, Cornell University Medical College, New York, has been appointed diagnostic consultant of the Standard Oil Company (New Jersey). Dr. Lee is chief, peripheral vascular group, National Health Institute, and physician in charge, hypertension clinic, New York Hospital.——Dr. Mary Steichen Calderone, Great Neck, L. I., has been appointed medical director of the Planned Parenthood Federation of America. She has been connected with the New York City Health Department and the American Public Health Association, has been a school physician in Great Neck, and is on the board of the Mental Health Association of Nassau County. She is the wife of Dr. Frank A. Calderone, who was formerly with the World Health Organization and is now director of health services at the United Nations secretariat.——Dr. J. Mark Hiebert, executive vice-president of Sterling Drug, Inc., has been elected to the board of trustees of Boston University.

New York City

Hospital News.—A cardiovascular surgical conference is held on Tuesdays, 4 p. m., at Montefiore Hospital for Chronic Diseases under the direction of Dr. Elliott S. Hurwitt, chief, surgical division. The conference presents patients to the cardiovascular team to obtain a group decision on the advisability of cardiovascular surgery.

Lecture on Cancer.—Dr. Francesco Ronchese, associate professor of clinical dermatology, Boston University School of Medicine, and dermatologist-in-chief, Rhode Island Hospital, Providence, R. I., will present "The Fluorescence of Cancer Under the Wood Light". at a conference of the New York Institute of Clinical Oral Pathology, New York Academy of Medicine, Dec. 21, 8:30 p. m.

University News.—Dr. William N. Hubbard Jr. has been promoted from assistant to associate dean of New York University College of Medicine of New York University-Bellevue Medical Center and from instructor to assistant professor in medicine on the college faculty. Dr. Hubbard, who joined the college of medicine faculty in 1949, was John Wyckoff fellow in medicine at New York University from July, 1950, to July, 1951.

Award in Oral Surgery.—At a dinner honoring Dr. Theodor Blum, Oct. 28, friends and colleagues established a fund for an annual Theodor Blum oral surgery award, to be given to a senior student of the School of Dentistry of the University of Pennsylvania, Dr. Blum's alma mater. Dr. Blum has been affiliated with several hospitals and clinics. He was the U. S. delegate to the International Dental Congress in Vienna in 1936 and was a member of the editorial board of the *Archives of Clinical Oral Pathology* from 1937 to 1940.

Dr. Muckenfuss Goes to California.—Dr. Ralph Stewart Muckenfuss, deputy commissioner of health for the City of New York since 1948, has been appointed scientific director of the Naval Biological Laboratory, University of California, whose research program is carried out by the university under a contract arrangement with the Navy Department. The laboratory is located at the naval supply depot in Oakland. Dr. Muckenfuss has also been director of the Public Health Research Institute of New York City and of the Bureau of Laboratories, New York City Department of Health. During World War II he received the Legion of Merit medal while serving as a colonel in the European theater.

NORTH CAROLINA

Narcotic Violation.—Dr. David E. Plummer, Thomasville, pleaded guilty, Oct. 20, in U. S. District Court at Salisbury, to a charge of violating the federal narcotic law and was sentenced to serve a term of 12 months.

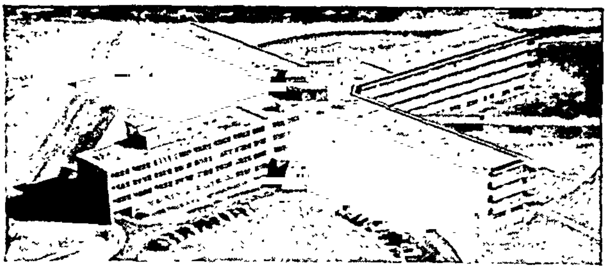
University News.—Dr. F. Douglas Lawrason has been appointed assistant dean of the University of North Carolina School of Medicine in Chapel Hill and assistant professor in the department of medicine. Dr. Lawrason was formerly affiliated with the Yale University School of Medicine, New Haven, Conn., and from 1950 to the present has been professional associate to the division of medical science, National Research Council.——Dr. Frank C. Winter, formerly with the Wilmer Institute of Ophthalmology, Johns Hopkins University, Baltimore, has been named assistant professor of surgery in charge of ophthalmology, and Dr. Robert G. Murray has been appointed instructor in ophthalmology at the University of North Carolina School of Medicine.

OHIO

Dr. Herrmann Honored.—Dr. Louis G. Herrmann, associate professor of surgery, University of Cincinnati College of Medicine, was recently made an honorary fellow of the Academy of Surgery of France in ceremonies in Paris. Dr. Herrmann left Cincinnati in September to attend the Congress of the International Society of Surgery in Lisbon, Portugal, and the 55th French Congress of Surgery in Paris. He served during October as visiting professor to the surgical services of the University of Strasbourg and the University of Lyon, and was invited to address the Swiss Association of Surgery at its annual meeting in Lausanne, Switzerland.

Society News.—At the scientific assembly in Toledo the Northwestern Ohio Medical Association elected Dr. Henry L. Abbott, Tiffin, president, Dr. Boyd W. Travis, Bluffton, vice-president, Dr. Henry B. Larzelere, Toledo, secretary, and Dr. Floyd A. McCammon, Van Wert, treasurer. At the meeting the award of merit was presented by the American Education Foundation to Dr. Edward J. McCormick, Toledo, President of the American Medical Association, as president of the Board of Trustees of the Fred Melvin Douglass Foundation, which was credited with having been of "large material assistance to the American Education Foundation" in providing funds for the promotion of medical education.

Hospital for the Chronically Ill.—The Highland View Cuyahoga County Hospital, Cleveland, was recently opened for the care of the chronically ill. The building, as shown in the illustration, has a capacity of 448 beds, most of which are in four-bed wards; there are eight five-bed wards and a few double and single rooms. The extra wide corridors with hand rails on each side allow for passage of a large number of wheel chair and crutch-walking patients. In addition to the new building the institution includes several older buildings housing ambulatory and semi-ambulatory patients. Plans have been made for renovation of these buildings and for additions that will provide improved facilities. The hospital has an affiliation with Western Reserve University, whereby the school of medicine has teaching and research privileges. The hospital accepts all types of chronically ill patients requiring more than 30 days of hospital care with the exception of the tuberculous, the alcoholic, or the mentally ill. Dr. David R. Weir is director of medical services.



Highland View Cuyahoga County Hospital, Cleveland.

Personal.—Dr. Helen C. Sharp, Cincinnati, is returning to West Pakistan as a medical missionary for the Association of Reformed Presbyterian Missions in Punjab for a term of three years.——Dr. William W. Lynd, Ironton, the fourth Lawrence County physician to complete 50 years' service, was recently honored by the Lawrence County Medical Society at an appreciation dinner in the Patio, and a gold 50 year pin was presented to him.——Dr. Ferdinand F. Fledderjohann, New Bremen, was honored at the October meeting of the Auglaize County Medical Society in commemoration of his completion of 50 years in the practice of medicine. He was presented with a 50 year plaque and certificate from the Ohio State Medical Society.——Dr. Nicholas S. Assali, assistant professor of obstetrics, University of Cincinnati College of Medicine, has been named associate professor of obstetrics and gynecology at the University of California at Los Angeles School of Medicine, where he will also head the Reproductive Physiology Laboratory. Dr. Assali recently returned from Brazil, where he gave five lectures on physiology of pregnancy at the University of São Paulo, Brazil, and one lecture at the University of Brazil at Rio de Janeiro. He also conducted rounds at the department of obstetrics of the Hospital of Clinicas and other hospitals in São Paulo and Rio.

OKLAHOMA

Lectureship Honors Dr. Cook.—Dr. W. Albert Cook, Tulsa, first president of the Tulsa County Medical Society, in 1907, has been honored by the society with the creation of the annual W. Albert Cook lecture, which, featuring a visiting distinguished guest lecturer, will be part of the Annual Founders Day Clinic to be held each fall. Dr. Cook has served as president of the Oklahoma State Medical Association and delegate to the American Medical Association.

SOUTH CAROLINA

Personal.—Dr. Carl B. Epps, Sumter, who has been secretary-treasurer of the Seventh District Medical Society for 32 years, was the recipient of a sterling silver pitcher from the organization at its recent annual meeting. The presentation was made by Dr. Charles R. F. Baker, Sumter, president of the South Carolina Medical Association.

Public Health Laboratory.—A new southeastern public health laboratory, recently opened in Walterboro, will serve the counties of Colleton, Berkeley, Dorchester, Beaufort, Allendale, Jasper, Hampton, Bamberg, and Barnwell. It will be under the local direction of Dr. Holland M. Carter, health officer for Colleton, Dorchester, and Allendale counties.

Memorial Flag.—The U. S. flag, which shrouded the casket of Dr. John Dendley McBrearty when it was returned to his home for burial services during World War II, was recently presented to the Palmetto High School in Williamston by his mother, Mrs. Agnes Dendy McBrearty. She expressed the wish that it might inspire some student to follow the profession of her son and practice in the Pelzer-Williamston area.

TENNESSEE

Society News.—The officers of the Tennessee Radiological Society recently elected during the state medical association meeting are: president, Dr. Joseph McKinney Ivie, Nashville; vice-president, Dr. J. Marsh Frere, Chattanooga; and secretary-treasurer, Dr. George K. Henshall, Chattanooga.

TEXAS

University Activities on Radio.—Radio station KGBC of Galveston is featuring a weekly series of programs describing the teaching, research, and service activities of the University of Texas Medical Branch in Galveston.

Narcotic Violation.—Dr. Leroy Trice, 700 N. Sycamore St., Palestine, pleaded guilty on Oct. 6 in the U. S. District Court at Tyler to a charge of violating the federal narcotic law. On Oct. 16 he was sentenced to serve a term of two years. His sentence was suspended, and he was placed on probation for three years.

Appreciation Day.—Dr. George Sidney Woods, general practitioner in Devine for 42 years, was paid tribute in a "Day of Appreciation" Oct. 1. The local chamber of commerce sponsored a parade, a barbecue, speeches, and gifts in the high school stadium. Dr. Woods was made honorary mayor of Devine. Dr. Robert F. Gossett, chief-of-staff of the Baptist Memorial Hospital, San Antonio, made the principal address, and Dr. Leo E. Peters, Devine, welcomed visiting physicians.

UTAH

Postgraduate Television Clinics.—In cooperation with KDYL-TV, Salt Lake City, the division of graduate and postgraduate medical education, University of Utah College of Medicine, supported in part by a grant from the W. K. Kellogg Foundation, has televised an early morning series of postgraduate clinics weekly from the amphitheater of the Salt Lake General Hospital. Though the broadcast is on an open circuit, the clinics are on a postgraduate level, and announcement of the time of broadcast is made only to physicians. Audience participation in the program is encouraged, and unlisted telephone service directly to the broadcast amphitheater is provided, so that physicians may ask questions during the program. Only the physicians in the Salt Lake area are given the phone number for this type of participation. This series of clinics represents the initial use of open circuit television for postgraduate medical education and is considered an experiment in medical education. Evaluation of the clinics will be published after completion of the present series.

VERMONT

Parents of Blind Children Form Organization.—The Vermont Association for the Blind and the Division for the Blind of the State Department of Social Welfare have endorsed a newly created organization of parents of blind children to help other parents make the adjustment necessary when the child is visually handicapped at birth. Physicians having knowledge of the latter families are requested to refer them to Mr. and Mrs. Samuel Stowell, Rutland, Mr. and Mrs. Robert Russell, Underhill Center, or Mr. and Mrs. Marcel Blouini, Montpelier.

WASHINGTON

University News.—Dr. James W. Haviland, assistant dean of the University of Washington Medical Department, Seattle, on a part-time basis, has been appointed acting dean until a successor is appointed for Dr. Edward L. Turner, who resigned to become secretary of the A. M. A. Council on Medical Education and Hospitals.

Scholarship Fund.—The University of Washington, Seattle, has been notified that a half million dollar legacy was bequeathed it by the late Dr. Everett O. Jones. Under the terms of the trust fund, the annual net income from Dr. Jones' estate ultimately will go to the university to establish and maintain the "Dr. Everett O. Jones Scholarship Fund" in the School of Medicine. Grants and loans to deserving students will be made available from that fund.

Dr. Powers Goes to Lebanon.—Dr. Leland E. Powers, head, department of public health and preventive medicine, University of Washington School of Medicine, Seattle, has resigned to join the faculty of the American University in Beirut, Lebanon. Dr. Powers has been county-city health officer for Port Angeles and Clallam County, Tacoma city health officer, Washington state director of health, and from 1944 to 1946 was chief medical officer in China for the United Nations Relief and Rehabilitation Administration.

WEST VIRGINIA

Society News.—Dr. Walter C. Swann, Huntington, was installed as president of the West Virginia Heart Association at the annual meeting in Charleston; Dr. Francis J. Gaydosh, Wheeling, was named president-elect; Dr. Richard N. O'Dell, Charleston, vice-president; Dr. William E. Bray Jr., Huntington, secretary; and Mr. Ronald E. Plott, Charleston, treasurer.

GENERAL

Traveling Atomic Energy Shows.—The American Museum of Atomic Energy has made available mobile exhibits, which are carried by truck trailer from one city to another. One of the larger traveling shows toured Maryland in November and is scheduled for a December tour in Massachusetts. The exhibits are being offered for use at conventions and other gatherings. Information may be obtained from the American Museum of Atomic Energy, Post Office Box 117, Oak Ridge, Tenn.

Public Health Awards.—At the annual banquet of the Conference of State and Provincial Public Health Laboratory Directors, Nov. 9, in New York, the Kimble Glass methodology research award for outstanding contribution to the field of public health was presented to Dr. Robert A. Nelson Jr., of the department of microbiology, Johns Hopkins University School of Hygiene and Public Health, Baltimore, and Manfred M. Mayer, Ph.D., associate professor of microbiology. The award, which includes $500 and an engraved silver plaque, was given in recognition of the Nelson-Mayer method for the diagnosis of syphilis, which has been tested in this country and abroad through the International Cooperating Laboratories of the World Health Organization program.

Foundation Award.—The American Association of Obstetricians, Gynecologists and Abdominal Surgeons offers the annual Foundation Prize of $200 to (a) interns, residents, or graduate students in obstetrics, gynecology, or abdominal surgery, and (b) persons with the degree of doctor of medicine or a scientific degree approved by the prize award committee, who are actively practicing, teaching, or are engaged in research in obstetrics or gynecology. Manuscripts must be presented under a pseudonym, together with a sealed envelope bearing the pseudonym and containing a card showing the name and address of the contestant. Three copies of the double-spaced typewritten manuscript (no more than 5,000 words) must be in the hands of the president of the foundation before April 1. Information may be obtained by writing to the president, Dr. Jean Paul Pratt, 2799 W. Grand Blvd., Detroit.

Society News.—The **American Board of Anesthesiology** at its meeting in St. Paul, Sept. 30, elected Dr. Milton C. Peterson, Kansas City, Mo., and reelected Drs. Meyer Saklad, Providence, R. I., and Curtiss B. Hickcox, Hartford, Conn., as directors, all for six year terms.——At its meeting in Seattle on Nov. 13, the **Pacific Northwest Trudeau Society** elected Dr. James M. Odell, The Dalles, Ore., president, Dr. William S. Barclay, Sardis, British Columbia, president-elect, and Dr. Thomas F. Sheehy Jr., Seattle, secretary-treasurer.——At the annual convention of the **Association of Military Surgeons of the United States** in Washington, D. C., Dr. Leonard A. Scheele, Surgeon General of the U. S. Public Health Service, Department of Health, Education, and Welfare, was installed as president, and Major Gen. Joseph I. Martin (MC), U. S. Army, was advanced to the position of first vice-president which Dr. Scheele vacated.——At the annual meeting in Philadelphia on Oct. 15, the **American Board of Dermatology and Syphilology** elected the following officers: Dr. Nelson P. Anderson, Los Angeles, president; Dr. George M. Lewis, New York, vice-president; and Dr. Anthony C. Cipollaro, New York, secretary-treasurer. All correspondence should be addressed to the executive secretary, Miss Janet Newkirk, 66 E. 66th St., New York 21.——The **American Association for the Advancement of Science** will hold a symposium on communication aids for the blind at 9:30 a. m. Dec. 28 in Room E, Mechanics Building, Huntington Ave., Boston, in conjunction with the 120th meeting of the association. Among the topics to be discussed are (1) communication by braille and recordings, (2) communication aspects of visual prosthesis with application to stepdown detection, and (3) recent development of travel aids for the blind.

Pan American Sanitary Organization.—At the recent meeting in Washington, D. C., the directing council of the Pan American Sanitary Organization authorized a budget of $2,100,000 for the year 1954, for continuation of the health programs to be carried out with the guidance of the bureau. The council also approved the preliminary draft of a program and $2,150,000 budget for 1955, submitted by Dr. Fred L. Soper, director of the bureau. The council adopted the following guiding principles for continuous, long-range planning to serve the more basic public health needs of the member countries: the bureau is to base such planning on a continuous survey and evaluation of the needs and resources of the member states, in order better to assist them in strengthening their fundamental health services. Increasing emphasis is to be placed on the training of health personnel, and the bureau is to give its technical orientation in the planning and operation of individual and regional programs for the eradication of such communicable diseases as urban yellow fever, malaria, smallpox, syphilis, and yaws.

The bureau informed the directing council that the incidence of smallpox constitutes a serious problem in the Western Hemisphere. From 1948 to 1952, 85,900 cases with 14,200 deaths from smallpox were reported to the bureau by the health administrations of 17 countries. The bureau stressed, however, that the system of reporting is incomplete and does not reflect the full scope of the problem. Other problems discussed included (1) the difficulty of obtaining the services of highly competent technical personnel, (2) the growing multiplicity of agencies that approach the various governments in regard to public health programs, and (3) difficulties encountered by a number of member countries in obtaining sufficient quantities of residual insecticides and on equitable terms.

Visiting Scientists.—Gustav Asboe-Hansen of the Laboratory for Connective Tissue Research, University of Copenhagen, will be in the United States from Feb. 15 to March 30, 1954, to attend the 5th Conference on Connective Tissues, Feb. 17-19 at Princeton, N. J. His program is being arranged by the Josiah Macy Jr. Foundation, New York. His possible lecture topics include "Hormonal Effects on Connective Tissues" and "The Mast Cell: Morphology and Physiology."——Prof. Hans A. Krebs, M.D., F.R.S., professor of biochemistry, University of Sheffield, and director of the Medical Research Council unit for research on cell metabolism, will deliver lectures from the end of February to April, 1954, at Johns Hopkins University, Baltimore, the University of Chicago, and the University of Wisconsin, Madison.——Kurt A. G. Mendelssohn, F.R.S., university demonstrator, Clarendon Laboratory, Oxford, England, is attending the International Conference on Low Temperatures, Houston, Texas, Dec. 17-22, and will be at Stanford University, Jan. 7, and Berkeley, Calif., Jan. 8.——Dr. C. B. McKerrow, member of the scientific staff of the Medical Research Council, the National Institute for Medical Research, London, England, will be in the United States until August, 1954. He is presently working with Dr. Arthur B. Otis at Johns Hopkins University School of Medicine, Baltimore, and plans to make various visits on behalf of the Medical Research Council. Information may be had from the U. K. Scientific Mission, 1800 K St., N.W., Washington, D. C., concerning his itinerary, which includes Montreal, Canada; Baltimore; Boston; Rochester, N. Y.; Rochester, Minn.; Philadelphia; New York; Saranac Lake, N. Y.; Pittsburgh; and Washington, D. C.——Dr. J. G. Millichap (℅ Dr. Randolph K. Byers, Department of Neurology, Children's Medical Center, Boston) and Dr. Sloane-Stanley (℅ Dr. Jordi Folch-Pi, McLean Hosptal, Waverley, Mass.), both of the Medical Research Council in London, England, and both holders of the Eli Lilly Traveling Fellowship, will be in the United States until October, 1954.

Educational Television Stations.—In its first annual report, the National Citizens Committee for Educational Television states that two noncommercial stations are already telecasting (KUHT, Houston, Texas, and KUSC, Los Angeles), that 27 other noncommercial television stations are expected to be on the air by the end of 1954, that in 25 other communities plans are so well finished that operating stations should become realities in the near future, and that 86 other communities have well-finished plans for noncommercial television stations but no target date has been set for operations. The National Citizens Committee for Educational Television and the joint committee on educational television are financed by the Ford Foundation's Fund for Adult Education. The former committee was established to work with civic and citizen groups desiring to build educational television stations on the 245 channels that the Federal Communications Commission has reserved for noncommercial telecasting. The former committee has published a pamphlet, entitled "Tales of Seven Cities" (Cincinnati, St. Louis, San Francisco, Seattle, Pittsburgh, Wilmette, Ill., and Philadelphia), which shows the variety and similarity of problems in organizing civic and citizen support to build an educational television station. In the Wilmette story it is said that a group of parents was organized to watch every children's television program for one week starting on Christmas Day. During the seven day period these startled parents saw "77 murders, 53 shootings, 30 gunfights, 7 kidnappings, 59 fist fights, 2 knifings, 22 sluggings, 3 whiplashings, 2 poisonings, 2 bombings, 3 murders by poison darts, a man hit over the head with a shovel and another killed by a train, an attempted lynching, a man clawed by a tiger, a suicide, a girl locked in a vault, a boy beaten by his uncle, a man thrown over a cliff, 3 men locked in a safe, and a man blown up in an ammunition dump. This grisly catalogue of plain and fancy crime included only violence wreaked on individuals without counting mass deaths such as the burning of a native village, a falling dirigible, and a ship fire." In Wilmette it was decided that the time had come to act. Civic leaders, educators, clergymen, PTA members, and others were solicited to join a Citizens Committee for Educational Television. At a meeting held to further this cause, it was agreed to conduct a campaign to raise funds, and, before the drive was underway, almost everybody in Wilmette was helping, and 80% of the families solicited contributed funds. The sponsoring group later became the Chicago Educational Television Association. Copies of the pamphlet can be obtained from the National Citizens Committee for Educational Television, Ring Building, Washington 6, D. C.

PHILIPPINE ISLANDS

Heart Association Sponsors Lecture and Award.—The recently formed Philippine Heart Association, an affiliate of the Philippine Medical Association and the International Cardiological Society, sponsors annually the Ricardo D. Molina lecture and the William Burke award. The award includes a gold medal, a one-year free associate membership, and a special additional gift. The Molina lectureship was inaugurated at the first annual heart day, Feb. 14, by a former classmate of the late Dr. Molina, Dr. Antonio G. Sison, emeritus professor of medicine, University of the Philippines College of Medicine, who discussed "Elements Affecting the Prognosis of Heart Diseases." The first Burke awards were won by interns R. Varias and Dedicacion Agatep-Reyes of the University of the Philippines and the University of Santo Tomas colleges of medicine, respectively.

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CORRECTIONS

Instrument for Endotracheal Anesthesia During Oropharyngeal Surgery.—In the article by this title in The Journal, Nov. 14, 1953, page 1017, succinylcholine chloride is enumerated among drugs used for anesthesia. This was a typographic error, and it should not be inferred that succinylcholine chloride is an anesthesia agent, per se, but simply an adjunct to anesthesia.

Clinical Application of Current Tests of Renal Function.—In the article by this title in The Journal, Dec. 5, 1953, the last paragraph in the article, on page 1249, should read as follows: "In view of the multiplicity of renal functions and the fact that in renal disease these may vary independently of each other, it is evident that no single test is adequate for complete assessment of the over-all functional capacity of the kidneys."

Ménière's Disease.—In the answer to the query by this title in The Journal, Nov. 21, 1953, page 1142, the first two words should have read "Dimenhydrinate (Dramamine)."

MEETINGS

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1954 Clinical Meeting, Miami, Florida, Nov. 30-Dec. 3.

1955 Annual Meeting, Atlantic City, N. J., June 6-10.

1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

Annual Congress on Medical Education and Licensure, Palmer House, Chicago, Feb. 7-9. Dr. Edward L. Turner, 535 N. Dearborn St., Chicago 10, Secretary.

American Academy of Allergy, Shamrock Hotel, Houston, Texas, Feb. 1-3. Dr. Alan G. Cazort, 1425 West 7th St., Little Rock, Ark., Secretary.

American Academy of Obstetrics and Gynecology, Netherland Plaza Hotel, Cincinnati, Dec. 14-16. Dr. C. Paul Hodgkinson, 116 South Michigan Blvd., Chicago 3, Secretary.

American Academy of Occupational Medicine, John Marshall Hotel, Richmond, Va., Feb. 11-12. Dr. Leonard J. Goldwater, 600 W. 168th St., New York 32, Secretary.

American Academy of Orthopaedic Surgeons, Palmer House, Chicago Jan. 23-28. Dr. John R. Norcross, 122 S. Michigan Blvd., Chicago 3 Secretary.

American College of Radiology, Drake Hotel, Chicago, Feb. 5. Mr William C. Stronach, 20 N. Wacker Drive, Chicago 6, Executive Secretary.

American Federation for Clinical Research:

Eastern Section, Amphitheater, Children's Medical Center, Boston Jan. 4. Dr. Walter Judson, Evans Memorial Hospital, Boston, Chairman.

Southern Section, Jung Hotel, New Orleans, Jan. 29. Dr. Willian Parson, University of Virginia School of Medicine, Charlottesville Va., Chairman.

Western Section, Auditorium, University of Oregon Medical School Portland, Ore., Jan. 28. Dr. I. S. Edelman, University of Californi Medical Center, San Francisco Hospital, San Francisco 15, Secretary

American Laryngological, Rhinological and Otological Society:

Eastern Section, Waldorf-Astoria, New York, Jan. 8. Dr. Daniel S Cunning, 118 E. 53d St., New York 22, Chairman.

Middle Section, Park Plaza Hotel, St. Louis, Jan. 18. Dr. French K Hansel, 634 N. Grand Blvd., St. Louis, Chairman.

Southern Section, Brown Hotel, Louisville, Ky., Jan. 16. Dr. Williar C. Wolfe, 1012 Heyburn Bldg., Louisville 2, Ky., Chairman.

Western Section, University of Oregon Medical School, Portland, Ore Feb. 6. Dr. Guy L. Boyden, 1735 N Wheeler Ave., Portland 12, Ore Chairman.

American Orthopsychiatric Association, Hotel New Yorker, New Yorl Feb. 11-13 Dr. Marion F. Langer, Room, 303 Lexington Ave., Ne York 16, Secretary.

American Protestant Hospital Association, Palmer House, Chicag Feb. 10-12. Mr. Albert G. Hahn, Protestant Deaconess Hospital, Evan ville, Ind., Executive Secretary.

American Society for Surgery of the Hand, Palmer House, Chicag Jan. 22. Dr. George V. Webster, 960 East Green St., Pasadena Calif., Secretary.

Northwest Society for Clinical Research, Portland, Ore., Jan. 28. D Arthur L. Rogers, 1216 S.W. Yamhill St., Portland, Ore., Secretary.

Regional Meetings, American College of Physicians:

Eastern Pennsylvania, Philadelphia, Jan. 15. Dr. Thomas M. McMillan, 330 S. Ninth St., Philadelphia 7, Governor.

Sectional Meetings, American College of Surgeons: Charlotte, N. C., Hotel Charlotte, Feb. 1-3. Dr. Thomas D. Sparrow, 403 North Tryon St., Charlotte 2, N. C., Chairman.

Society of University Surgeons, Sheraton Hotel, Rochester, N. Y., Feb. 11-13. Dr. C. Rollins Hanlon, 1325 South Grand Blvd., St. Louis, Secretary.

Western Society for Clinical Research, Portland, Ore., Jan. 29-30. Dr. Herbert N. Hultgren, Stanford Hospital, San Francisco 15, Secretary.

FOREIGN

Association of Surgeons of Great Britain and Ireland, Leeds, England. May 13-15, 1954. Dr. Henry W. S. Wright, 45 Lincoln's Inn Fields, London W.C.2, England, Honorary Secretary.

British Medical Association, Glasgow, Scotland, July 1-9, 1954. Dr. A. Macrae, B.M.A. House, Tavistock Square, London, W.C.1, England, Secretary.

Canadian Medical Association, Vancouver, B. C., Canada, June 14-18, 1954. Dr. T. C. Routley, 135 St. Clair Ave. W., Toronto 5, Ont., Canada, General Secretary.

Conference of International Union Against Tuberculosis, Madrid, Spain, Sept. 26-Oct. 2, 1954. Secretariat, Escuela de Tisiologia, Ciudad Universitaria, Madrid, Spain.

Congress of International Anesthesia Research Society, Los Angeles, Calif., U. S. A., Oct. 4-7, 1954. For information write: Dr. T. H. Seldon, 102-110 Second Avenue S. W., Rochester, Minn., U. S. A.

Congress of International Association for the Prevention of Blindness, New York, N. Y., U. S. A., Sept. 12-17, 1954. Professor Franceschetti, 2 Avenue Mirmot, Geneva, Switzerland, Secretary-General.

Congress of International Society of Surgery, Paris, France, May 21-22, 1954. Dr. L. Dejardin, 141, rue Belliard, Brussels, Belgium, *General Secretary.*

Health Congress of the Royal Sanitary Institute, Scarborough, England, April 27-30. Mr. P. Arthur Wells, Royal Sanitary Institute, 90 Buckingham Palace Road, London, S.W.1, England, Secretary.

International Cancer Congress, Sao Paulo, Brazil, July 23-29, 1954. Prof. A. Prudente, 171 rua Benjamin Constante, Sao Paulo, Brazil, President.

International Conference on Thrombosis and Embolism, Basle, Switzerland, July 15-19, 1954. Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, *Switzerland, Hon. Secretary.*

International Congress on Child Psychiatry, University of Toronto, Toronto, Ontario, Canada, Aug. 13-14, 1954. Miss Helen Speyer, International Association for Child Psychiatry, 1790 Broadway, New York 19, New York, U. S. A., Executive Officer.

International Congress of Clinical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Dr. Robert A. Moore, Washington University School of Medicine, St. Louis 10, Missouri, U. S. A., Chairman, Committee on Arrangements.

International Congress on Diseases of the Chest, Barcelona, Spain, Oct. 4-8, 1954. Mr. Murray Kornfeld, 112 East Chestnut St., Chicago 11, Illinois, Executive Secretary.

International Congress on Group Psychotherapy, Toronto, Ont., Canada, Aug. 12-14, 1954. Dr. J. L. Moreno, Room 327, 101 Park Ave., New York 17, N. Y., U. S. A., Director of Organizing Committee.

International Congress of Hematology, Paris, Sept. 6-11, 1954. Dr. Jean Bernard, 86 rue d'Assas, Paris 6^e, France, Secretary.

International Congress of the History of Medicine, Rome and *Salerno, Italy, Sept. 13-20, 1954. For information write: Segreteria XIV* Congresso Internazionale di Storia della Medicina, Instituto di Storia della Medicine, Citta Universitaria, Rome, Italy.

International Congress of Hydroclimatism and Thalassotherapy, Dubrovnik, Yugoslavia, May 8-16, 1954. Prof. C. Plavsic, Zeleni venac 1, Belgrade, Yugoslavia, Secretary General.

International Congress of Industrial Medicine, Naples, Italy, Sept. 13-19, 1954. Professor Scipione Caccuri, Director, Institute of Industrial Medicine Policlinico, Naples, Italy, Chairman, Organizing Committee.

International Congress of Internal Medicine, Stockholm, Sweden, Sept. 15-18, 1954. Professor Anders Kristenson, Karolinska Sjukhuset, Stockholm 60, Sweden, Secretary-General.

International Congress of International College of Surgeons, São Paulo, Brazil, April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake Shore Drive, Chicago. Illinois, U. S. A., Secretary-General.

International Congress on Mental Health, University of Toronto, Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write: Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

International Congress of Nutrition, Amsterdam, Netherlands, Sept. 14-18, 1954. For information write: Dr. M. van Eekelen, Centraal Instituut voor Voedingsonderzoek T.N.O., 61 Catharynesingel, Utrecht, Netherlands.

International Congress on Obstetrics and Gynecology, Geneva, Switzerland, July 26-31, 1954. Dr. H. de Watteville, Maternité Hôpital Cantonal, Geneva, Switzerland, President.

International Congress of Ophthalmology, University of Montreal and McGill University, Montreal, Canada, Sept. 10-11, 1954, and Waldorf-Astoria, New York, N. Y., U. S. A., Sept. 12-17, 1954. Dr. William L. Benedict, 100 First Avenue Building, Rochester, Minnesota, U. S. A., Secretary-General.

International Congress of Orthopedic Surgery and Traumatology, Berne, Switzerland, Aug. 30-Sept. 3, 1954. For information write: Professor M. Dubois, Isle-Hospital, Berne, Switzerland.

International Congress of Psychology, Montreal, Canada, June 7-12, 1954. For information write: Prof. H. S. Langfeld, International Union of Scientific Psychology, Eno Hall, Princeton University, Princeton, *N. J., U. S. A.*

International Congress for Psychotherapy, Zurich, Switzerland, July 21-24, 1954. Dr. H. K. Fierz, Theaterstrasse 12, Zurich 1, Switzerland, Secretary General.

International Gerontological Congress, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

International Poliomyelitis Congress, Rome, Italy, Sept. 6-10, 1954. Mr. Stanley E. Henwood, 120 Broadway, New York 5, N. Y., U. S. A., Executive Secretary.

International Society of Blood Transfusion, Paris, France, Sept. 12-19, 1954. For information write: Colonel Julliard, Societe Internationale de Transfusion Sanguine, 53 Boulevard Diderot, Paris 12^e, France.

International Society for Cell Biology, Leiden, Netherlands, Sept. 2-9, 1954. Professor Peter J. Gaillard, University of Leiden, Leiden, Netherlands, Secretary.

International Society of Geographical Pathology, Washington, D. C., *U. S. A., Sept. 6-10,* 1954. Professor Fred C. Roulet, Hebelstrasse 24, Basle, Switzerland, Secretary-General.

Journees Medicales, Paris, France, April 21-25, 1954. For information write: Secretariat of the Journees, 12, rue Pierre-Geofroix, Colombes (Seine) France.

Latin American Congress of Otorhinolaryngology, Caracas, Venezuela, Feb. 21-25, 1954. Dr. Victorino Marquez Reveron, Centro, Medico, Caracás, Venezuela, Secretary-General.

Latin American Congress of Physical Medicine, Medellin, Columbia, South America, Feb. 15-20, 1954. Dr. Cassius Lopez de Victoria, 176 East 71st St., New York 21, N. Y., U. S. A., Executive Director.

Pan American Congress of Ophthalmology (Intermin), São Paulo, Brazil, June 17-21, 1954. Dr. Moacyr E. Alvaro, São Paulo, Brazil, President.

Pan American Congress of Otorhinolaryngology and Bronchoesophagology, Mexico, D.F., Mexico, Feb. 28-March 4, 1954. Dr. Pedro Hernandez Gonzalo, 8 No. 358, Vedado, Havana, Cuba, General Secretary.

Pan American Medical Association, International Medical Cruise Congress, S. S. Nieuw Amsterdam, Jan. 6-22, 1954. Dr. Joseph J. Eller, *745 Fifth Avenue, New York 22, N. Y., U. S. A., Executive Director.*

Pan-Pacific Surgical Congress, Honolulu, Hawaii, Oct. 7-18, 1954. Dr. F. J. Pinkerton, Suite 7, Young Bldg., Honolulu 13, Hawaii, Director General.

Royal Sanitary Institute Health Congress, Scarborough, England, April 27-30, 1954. Mr. P. Arthur Wells, Royal Sanitary Institute, 90 Buckingham Palace Road, London S. W. 7, England, Secretary.

Sectional Meeting, American College of Surgeons, London, England, May *17-19, 1954. Dr. Michael L. Mason, 40 East Erie St., Chicago 11,* Ill., U. S. A., Secretary.

South American Congress of Angiology, Sao Paulo, Brazil, July 1954. For information write: Dr. Rubens Carlos Mayall, Rua Senador Vergueiro 73, Rio de Janeiro, Brazil, S. A.

World Congress of Cardiology, Washington, D. C., and Bethesda, Md., U. S. A., Sept. 12-17, 1954. Dr. L. W. Gorham, 44 East 23d St., New York 10, N. Y., U. S. A., Secretary-General.

World Congress of International Society for the Welfare of Cripples, Scheveningen-The Hague, Netherlands, Sept. 13-17, 1954. Secretariat: Miss H. P. Post, Pieter Lastmarkade 37, Amsterdam Z, Netherlands.

World Federation of Occupational Therapists, Edinburgh, Scotland, August 17, 1954.

World Medical Association, Rome, Italy, Sept. 26-Oct. 2, 1954. Dr. Louis H. Bauer, 345 East 46th St., New York 17, N. Y., U. S. A., Secretary-General.

EXAMINATIONS AND LICENSURE

EXAMINING BOARDS IN SPECIALTIES

American Board of Anesthesiology: *Written.* Various Centers, July 16. *Sec., Dr. Curtiss B. Hickox, 80 Seymour St., Hartford 15.*

American Board of Neurological Surgery: *Oral.* Chicago, May or June. Final date for filing application is Jan. 15. Sec., Dr. Leonard T. *Furlow, 600 S. Kingshighway, St. Louis 10.*

American Board of Neurology and Psychiatry: *Psychiatry and Neurology.* Dec. 14-15. Applications no longer being accepted. Chicago, April 29-30. Final date for filing application is Feb. 1. Sec., Dr. David A. Boyd, Jr., 102-110 Second Ave., S.W., Rochester, Minn.

American Board of Obstetrics and Gynecology: Written examination (Part I) and review of case histories for all candidates will be held in various cities of the United States, Canada, and military centers outside the continental United States on Feb. 5. Case abstracts are to be sent by the candidate to the Secretary as soon as possible. Application for reexamination in Part II must be made prior to Feb. 1 of any year. Sec., Dr. Robert L. Faulkner, 2105 Adelbert Road, Cleveland 6.

American Board of Ophthalmology: *Written.* Various Centers, January 25-26, 1954. Final date for filing applications was July 1. *Practical.* San Francisco, June 25-29; New Orleans, Feb. 5-11, 1955. Final date for filing application for 1955 written examination is July 1. Sec., Dr. Edwin B. Dunphy, 56 Ivie Road, Cape Cottage, Maine.

American Board of Orthopaedic Surgery: *Part II.* Chicago, Jan. 20-22. Final date for filing application was August 15. Final date for filing application for Part I is Nov. 30. Sec., Dr. Harold A. Sofield, 122 S. Michigan Ave., Chicago 3.

American Board of Otolaryngology: *Oral.* Boston, May 17-21. Sec., Dr. Dean M. Lierle, University Hospital, Iowa City.

American Board of Pediatrics: *Written.* Selected Places. Jan. 15. This is the only written examination which will be given during 1954. *Oral.* Washington, D. C., *Feb. 19-21; Des Moines, March 19-21;* New York City, May 1-3; San Francisco, June 25-27; Chicago, Oct. 8-10 and New Haven, December.

American Board of Psychiatry and Neurology: Chicago, May 10-11. Sec., Dr. David A. Boyd, Jr., 102-110 Second Ave., S.W., Rochester, Minn.

American Board of Radiology: *Oral.* Spring 1954. Final date for filing application was Dec. 1. Sec., Dr. B. R. Kirklin, 102-110 Second Ave. S.W., Rochester, Minn.

American Board of Urology: *Oral-clinical and pathology.* Chicago, Feb. 17-20. Sec., Dr. Harry Culver, 30 Westwood Road, Minneapolis 16.

Board of Thoracic Surgery: *Written.* Various centers throughout the country. Feb. 26. Final date for filing application is Jan. 1. Sec., Dr. Wm. M. Tuttle, 1151 Taylor Street, Detroit, Mich.

week starting on Christmas Day. During the seven day period these startled parents saw "77 murders, 53 shootings, 30 gunfights, 7 kidnappings, 59 fist fights, 2 knifings, 22 sluggings, 3 whiplashings, 2 poisonings, 2 bombings, 3 murders by poison darts, a man hit over the head with a shovel and another killed by a train, an attempted lynching, a man clawed by a tiger, a suicide, a girl locked in a vault, a boy beaten by his uncle, a man thrown over a cliff, 3 men locked in a safe, and a man blown up in an ammunition dump. This grisly catalogue of plain and fancy crime included only violence wreaked on individuals without counting mass deaths such as the burning of a native village, a falling dirigible, and a ship fire." In Wilmette it was decided that the time had come to act. Civic leaders, educators, clergymen, PTA members, and others were solicited to join a Citizens Committee for Educational Television. At a meeting held to further this cause, it was agreed to conduct a campaign to raise funds, and, before the drive was underway, almost everybody in Wilmette was helping, and 80% of the families solicited contributed funds. The sponsoring group later became the Chicago Educational Television Association. Copies of the pamphlet can be obtained from the National Citizens Committee for Educational Television, Ring Building, Washington 6, D. C.

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1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

ANNUAL CONGRESS ON MEDICAL EDUCATION AND LICENSURE, Palmer Ho Chicago, Feb. 7-9. Dr. Edward L. Turner, 535 N. Dearborn St., Chic 10, Secretary.

AMERICAN ACADEMY OF ALLERGY, Shamrock Hotel, Houston, Texas, 1-3. Dr. Alan G. Cazort, 1425 West 7th St., Little Rock, Ark., Secret

AMERICAN ACADEMY OF OBSTETRICS AND GYNECOLOGY, Netherland P Hotel, Cincinnati, Dec. 14-16. Dr. C. Paul Hodgkinson, 116 S Michigan Blvd., Chicago 3, Secretary.

AMERICAN ACADEMY OF OCCUPATIONAL MEDICINE, John Marshall H Richmond, Va., Feb. 11-12. Dr. Leonard J. Goldwater, 600 W. 1 St., New York 32, Secretary.

AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS, Palmer House, Chic Jan. 23-28. Dr. John R. Norcross, 122 S. Michigan Blvd., Chicag Secretary.

AMERICAN COLLEGE OF RADIOLOGY, Drake Hotel, Chicago, Feb. 5. William C. Stronach, 20 N. Wacker Drive, Chicago 6, Executive Se tary.

AMERICAN FEDERATION FOR CLINICAL RESEARCH:

EASTERN SECTION, Amphitheater, Children's Medical Center, Bos Jan. 4. Dr. Walter Judson, Evans Memorial Hospital, Boston, Ch man.

SOUTHERN SECTION, Jung Hotel, New Orleans, Jan. 29. Dr. Willi Parson, University of Virginia School of Medicine, Charlottesvi Va., Chairman.

WESTERN SECTION, Auditorium, University of Oregon Medical Sch Portland, Ore., Jan. 28. Dr. I. S. Edelman, University of Califor Medical Center, San Francisco Hospital, San Francisco 15, Secret

AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY:

EASTERN SECTION, Waldorf-Astoria, New York, Jan. 8. Dr. Daniel Cunning, 118 E. 53d St., New York 22, Chairman.

MIDDLE SECTION, Park Plaza Hotel, St. Louis, Jan. 18. Dr. French Hansel, 634 N. Grand Blvd., St. Louis, Chairman.

SOUTHERN SECTION, Brown Hotel, Louisville, Ky., Jan. 16. Dr. Willi C. Wolfe, 1012 Heyburn Bldg., Louisville 2, Ky., Chairman.

WESTERN SECTION, University of Oregon Medical School, Portland, O Feb. 6. Dr. Guy L. Boyden, 1735 N Wheeler Ave., Portland 12, O Chairman.

AMERICAN ORTHOPSYCHIATRIC ASSOCIATION, Hotel New Yorker, New Yo Feb. 11-13 Dr. Marion F. Langer, Room, 303 Lexington Ave., N York 16, Secretary.

AMERICAN PROTESTANT HOSPITAL ASSOCIATION, Palmer House, Chica Feb. 10-12. Mr. Albert G. Hahn, Protestant Deaconess Hospital, Eva ville, Ind., Executive Secretary.

AMERICAN SOCIETY FOR SURGERY OF THE HAND, Palmer House, Chica Jan. 22. Dr. George V. Webster, 960 East Green St., Pasadena Calif., Secretary.

NORTHWEST SOCIETY FOR CLINICAL RESEARCH, Portland, Ore., Jan. 28. Arthur L. Rogers, 1216 S.W. Yamhill St., Portland, Ore., Secretary.

REGIONAL MEETINGS, AMERICAN COLLEGE OF PHYSICIANS:

EASTERN PENNSYLVANIA, Philadelphia, Jan. 15. Dr. Thomas M. McMilla 330 S. Ninth St., Philadelphia 7, Governor.

SECTIONAL MEETINGS, AMERICAN COLLEGE OF SURGEONS: Charlotte, N. Hotel Charlotte, Feb. 1-3. Dr. Thomas D. Sparrow, 403 North Tryon S Charlotte 2, N. C., Chairman.

SOCIETY OF UNIVERSITY SURGEONS, Sheraton Hotel, Rochester, N. Y., Fe 11-13. Dr. C. Rollins Hanlon, 1325 South Grand Blvd., St. Loui Secretary.

WESTERN SOCIETY FOR CLINICAL RESEARCH, Portland, Ore., Jan. 29-30. D Herbert N. Hultgren, Stanford Hospital, San Francisco 15, Secretar

FOREIGN

ASSOCIATION OF SURGEONS OF GREAT BRITAIN AND IRELAND, Leeds, Englan May 13-15, 1954. Dr. Henry W. S. Wright, 45 Lincoln's Inn Fiel London W.C.2, England, Honorary Secretary.

BRITISH MEDICAL ASSOCIATION, Glasgow, Scotland, July 1-9, 1954. D A. Macrae, B.M.A. House, Tavistock Square, London, W.C.1, England Secretary.

CANADIAN MEDICAL ASSOCIATION, Vancouver, B. C., Canada, June 14-18 1954. Dr. T. C. Routley, 135 St. Clair Ave. W., Toronto 5, Ont., Canada General Secretary.

CONFERENCE OF INTERNATIONAL UNION AGAINST TUBERCULOSIS, Madrid, Spain, Sept. 26-Oct. 2, 1954. Secretariat, Escuela de Tisiologia, Ciudad Universitaria, Madrid, Spain.

CONGRESS OF INTERNATIONAL ANESTHESIA RESEARCH SOCIETY, Los Angeles, Calif., U. S. A., Oct. 4-7, 1954. For information write: Dr. T. H. Seldon, 102-110 Second Avenue S. W., Rochester, Minn., U. S. A.

Congress of International Association for the Prevention of Blindness, New York, N. Y., U. S. A., Sept. 12-17, 1954. Professor Franceschetti, 2 Avenue Mirmot, Geneva, Switzerland, Secretary-General.

Congress of International Society of Surgery, Paris, France, May 21-22, 1954. Dr. L. Dejardin, 141, rue Belliard, Brussels, Belgium, General Secretary.

Health Congress of the Royal Sanitary Institute, Scarborough, England, April 27-30. Mr. P. Arthur Wells, Royal Sanitary Institute, 90 Buckingham Palace Road, London, S.W.1, England, Secretary.

International Cancer Congress, Sao Paulo, Brazil, July 23-29, 1954. Prof. A. Prudente, 171 rua Benjamin Constante, Sao Paulo, Brazil, President.

International Conference on Thrombosis and Embolism, Basle, Switzerland, July 15-19, 1954. Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, Switzerland, Hon. Secretary.

International Congress on Child Psychiatry, University of Toronto, Toronto, Ontario, Canada, Aug. 13-14, 1954. Miss Helen Speyer, International Association for Child Psychiatry, 1790 Broadway, New York 19, New York, U. S. A., Executive Officer.

International Congress of Clinical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Dr. Robert A. Moore, Washington University School of Medicine, St. Louis 10, Missouri, U. S. A., Chairman, Committee on Arrangements.

International Congress on Diseases of the Chest, Barcelona, Spain, Oct. 4-8, 1954. Mr. Murray Kornfeld, 112 East Chestnut St., Chicago 11, Illinois, Executive Secretary.

International Congress on Group Psychotherapy, Toronto, Ont., Canada, Aug. 12-14, 1954. Dr. J. L. Moreno, Room 327, 101 Park Ave., New York 17, N. Y., U. S. A., Director of Organizing Committee.

International Congress of Hematology, Paris, Sept. 6-11, 1954. Dr. Jean Bernard, 86 rue d'Assas, Paris 6e, France, Secretary.

International Congress of the History of Medicine, Rome and Salerno, Italy, Sept. 13-20, 1954. For information write: Segretetia XIV Congresso Internazionale di Storia della Medicina, Instituto di Storia della Medicine, Citta Universitaria, Rome, Italy.

International Congress of Hydroclimatism and Thalassotherapy, Dubrovnik, Yugoslavia, May 8-16, 1954. Prof. C. Plavsic, Zeleni venac 1, Belgrade, Yugoslavia, Secretary General.

International Congress of Industrial Medicine, Naples, Italy, Sept. 13-19, 1954. Professor Scipione Caccuri, Director, Institute of Industrial Medicine Policlinico, Naples, Italy, Chairman, Organizing Committee.

International Congress of Internal Medicine, Stockholm, Sweden, Sept. 15-18, 1954. Professor Anders Kristenson, Karolinska Sjukhuset, Stockholm 60, Sweden, Secretary-General.

International Congress of International College of Surgeons, São Paulo, Brazil, April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake Shore Drive, Chicago, Illinois, U. S. A., Secretary-General.

International Congress on Mental Health, University of Toronto, Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write: Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

International Congress of Nutrition, Amsterdam, Netherlands, Sept. 14-18, 1954. For information write: Dr. M. van Eekelen, Centraal Instituut voor Voedingsonderzoek T.N.O., 61 Catharynesingel, Utrecht, Netherlands.

International Congress on Obstetrics and Gynecology, Geneva, Switzerland, July 26-31, 1954. Dr. H. de Watteville, Maternité Hôpital Cantonal, Geneva, Switzerland, President.

International Congress of Ophthalmology, University of Montreal and McGill University, Montreal, Canada, Sept. 10-11, 1954, and Waldorf-Astoria, New York, N. Y., U. S. A., Sept. 12-17, 1954. Dr. William L. Benedict, 100 First Avenue Building, Rochester, Minnesota, U. S. A., Secretary-General.

International Congress of Orthopedic Surgery and Traumatology, Berne, Switzerland, Aug. 30-Sept. 3, 1954. For information write: Professor M. Dubois, Isle-Hospital, Berne, Switzerland.

International Congress of Psychology, Montreal, Canada, June 7-12, 1954. For information write: Prof. H. S. Langfeld, International Union of Scientific Psychology, Eno Hall, Princeton University, Princeton, N. J., U. S. A.

International Congress for Psychotherapy, Zurich, Switzerland, July 21-24, 1954. Dr. H. K. Fierz, Theaterstrasse 12, Zurich 1, Switzerland, Secretary General.

International Gerontological Congress, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

International Poliomyelitis Congress, Rome, Italy, Sept. 6-10, 1954. Mr. Stanley E. Henwood, 120 Broadway, New York 5, N. Y., U. S. A., Executive Secretary.

International Society of Blood Transfusion, Paris, France, Sept. 12-19, 1954. For information write: Colonel Julliard, Societe Internationale de Transfusion Sanguine, 53 Boulevard Diderot, Paris 12e, France.

International Society for Cell Biology, Leiden, Netherlands, Sept. 2-9, 1954. Professor Peter J. Gaillard, University of Leiden, Leiden, Netherlands, Secretary.

International Society of Geographical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Professor Fred C. Roulet, Hebelstrasse 24, Basle, Switzerland, Secretary-General.

Journees Medicales, Paris, France, April 21-25, 1954. For information write: Secretariat of the Journees, 12, rue Pierre-Geofroix, Colombes (Seine) France.

Latin American Congress of Otorhinolaryngology, Caracas, Venezuela, Feb. 21-25, 1954. Dr. Victorino Marquez Reveron, Centro, Medico, Caracas, Venezuela, Secretary-General.

Latin American Congress of Physical Medicine, Medellin, Columbia, South America, Feb. 15-20, 1954. Dr. Cassius Lopez de Victoria, 176 East 71st St., New York 21, N. Y., U. S. A., Executive Director.

Pan American Congress of Ophthalmology (Intermin), São Paulo, Brazil, June 17-21, 1954. Dr. Moacyr E. Alvaro, São Paulo, Brazil, President.

Pan American Congress of Otorhinolaryngology and Bronchoesophagology, Mexico, D.F., Mexico, Feb. 28-March 4, 1954. Dr. Pedro Hernandez Gonzalo, 8 No. 358, Vedado, Havana, Cuba, General Secretary.

Pan American Medical Association, International Medical Cruise Congress, S. S. Nieuw Amsterdam, Jan. 6-22, 1954. Dr. Joseph J. Eller, 745 Fifth Avenue, New York 22, N. Y., U. S. A., Executive Director.

Pan-Pacific Surgical Congress, Honolulu, Hawaii, Oct. 7-18, 1954. Dr. F. J. Pinkerton, Suite 7, Young Bldg., Honolulu 13, Hawaii, Director General.

Royal Sanitary Institute Health Congress, Scarborough, England, April 27-30, 1954. Mr. P. Arthur Wells, Royal Sanitary Institute, 90 Buckingham Palace Road, London S. W. 7, England, Secretary.

Sectional Meeting, American College of Surgeons, London, England, May 17-19, 1954. Dr. Michael L. Mason, 40 East Erie St., Chicago 11, Ill., U. S. A., Secretary.

South American Congress of Angiology, Sao Paulo, Brazil, July 1954. For information write: Dr. Rubens Carlos Mayall, Rua Senador Vergueiro 73, Rio de Janeiro, Brazil, S. A.

World Congress of Cardiology, Washington, D. C., and Bethesda, Md., U. S. A., Sept. 12-17, 1954. Dr. L. W. Gorham, 44 East 23d St., New York 10, N. Y., U. S. A., Secretary-General.

World Congress of International Society for the Welfare of Cripples, Scheveningen-The Hague, Netherlands, Sept. 13-17, 1954. Secretariat: Miss H. P. Post, Pieter Lastmarkade 37, Amsterdam Z, Netherlands.

World Federation of Occupational Therapists, Edinburgh, Scotland, August 17, 1954.

World Medical Association, Rome, Italy, Sept. 26-Oct. 2, 1954. Dr. Louis H. Bauer, 345 East 46th St., New York 17, N. Y., U. S. A., Secretary-General.

EXAMINATIONS AND LICENSURE

EXAMINING BOARDS IN SPECIALTIES

American Board of Anesthesiology: *Written.* Various Centers, July 16. Sec., Dr. Curtiss B. Hickox, 80 Seymour St., Hartford 15.

American Board of Neurological Surgery: *Oral.* Chicago, May or June. Final date for filing application is Jan. 15. Sec., Dr. Leonard T. Furlow, 600 S. Kingshighway, St. Louis 10.

American Board of Neurology and Psychiatry: *Psychiatry and Neurology.* Dec. 14-15. Applications no longer being accepted. Chicago, April 29-30. Final date for filing application is Feb. 1. Sec., Dr. David A. Boyd, Jr., 102-110 Second Ave., S.W., Rochester, Minn.

American Board of Obstetrics and Gynecology: Written examination (Part I) and review of case histories for all candidates will be held in various cities of the United States, Canada, and military centers outside the continental United States on Feb. 5. Case abstracts are to be sent by the candidate to the Secretary as soon as possible. Application for reexamination in Part II must be made prior to Feb. 1 of any year. Sec., Dr. Robert L. Faulkner, 2105 Adelbert Road, Cleveland 6.

American Board of Ophthalmology: *Written.* Various Centers, January 25-26, 1954. Final date for filing applications was July 1. *Practical.* San Francisco, June 25-29; New Orleans, Feb. 5-11, 1955. Final date for filing application for 1955 written examination is July 1. Sec., Dr. Edwin B. Dunphy, 56 Ivie Road, Cape Cottage, Maine.

American Board of Orthopaedic Surgery: *Part II.* Chicago, Jan. 20-22. Final date for filing application was August 15. Final date for filing application for Part I is Nov. 30. Sec., Dr. Harold A. Sofield, 122 S. Michigan Ave., Chicago 3.

American Board of Otolaryngology: *Oral.* Boston, May 17-21. Sec., Dr. Dean M. Lierle, University Hospital, Iowa City.

American Board of Pediatrics: *Written.* Selected Places, Jan. 15. This is the only written examination which will be given during 1954. *Oral.* Washington, D. C., Feb. 19-21; Des Moines, March 19-21; New York City, May 1-3; San Francisco, June 25-27; Chicago, Oct. 8-10 and New Haven, December.

American Board of Psychiatry and Neurology: Chicago, May 10-11. Sec., Dr. David A. Boyd, Jr., 102-110 Second Ave., S.W., Rochester, Minn.

American Board of Radiology: *Oral.* Spring 1954. Final date for filing application was Dec. 1. Sec., Dr. B. R. Kirklin, 102-110 Second Ave. S.W., Rochester, Minn.

American Board of Urology: *Oral-clinical and pathology.* Chicago, Feb. 17-20. Sec., Dr. Harry Culver, 30 Westwood Road, Minneapolis 16.

Board of Thoracic Surgery: *Written.* Various centers throughout the country, Feb. 26. Final date for filing application is Jan. 1. Sec., Dr. Wm. M. Tuttle, 1151 Taylor Street, Detroit, Mich.

DEATHS

Rucker, Marvin Pierce ⊕ Richmond, Va.; born in Fairfax County, Va., Jan. 6, 1881; Johns Hopkins University School of Medicine, Baltimore, 1903; chairman, Section on Obstetrics, Gynecology, and Abdominal Surgery, American Medical Association, 1936-1937; past president of the Richmond Academy of Medicine, Medical Society of Virginia, American Association of Obstetricians, Gynecologists and Abdominal Surgeons, South Atlantic Association of Obstetricians and Gynecologists, Virginia Society of Obstetricians and Gynecologists, and the Richmond Obstetrical and Gynecological Society; in 1948 honorary vice-president of the Medical Library Association; in 1947 vice-president of the American Gynecological Society; chairman of the section on obstetrics of the Southern Medical Association in 1927; honorary fellow of the Washington Gynecological Society; member of Omicron Delta Kappa, Phi Delta Theta, Pi Mu (now Phi Chi), Phi Beta Kappa, in 1943 president of the Richmond chapter, and Phi Beta Kappa Associates; president of the board of health in Manchester, Va., from 1905 to 1912; for a short time health officer of Chesterfield County, Va.; member of the board of health of Richmond from 1946 to 1953, serving as chairman from 1950 until he recently resigned; taught at Medical College of Virginia in various capacities, from demonstrator in histology and embryology to associate professor of obstetrics from 1903 to 1930; in 1940 lecturer on the history of obstetrics at Duke University in Durham, N. C.; specialist certified by the American Board of Obstetrics and Gynecology; director of the Johnston-Willis Hospital and the Central YMCA; in 1938 received the degree of doctor of laws from the Randolph-Macon College in Ashland, where he was a trustee; chairman, and one of the founders of the Virginia League for Planned Parenthood; attending and consulting obstetrician, Brookfield Home for Girls; author of section on medical sciences that appeared in the book "The James River Basin," a publication of the Virginia Academy of Science; since 1942 editor of the *Virginia Medical Monthly;* died in the Johnston-Willis Hospital Oct. 23, aged 72, of scleroderma.

Howard, Joseph Henry ⊕ Bridgeport, Conn.; born in Bridgeport Aug. 30, 1892; Georgetown University School of Medicine, Washington, D. C., 1918; interned at Bridgeport Hospital; took postgraduate study in Austria, France, and Germany; specialist certified by the American Board of Obstetrics and Gynecology; fellow of the American College of Surgeons; member of the New England Obstetrical and Gynecological Society, of which he was chairman of the executive committee; member of the House of Delegates of the American Medical Association from 1946 through June 1953 and member of the Committee on Indigent Care since July 1949; chairman of the council, and past president of the Connecticut State Medical Society, serving as chairman of the society's committee on public health and as chairman of the committee on maternal mortality and morbidity; president and member of the executive committee, Connecticut Branch of the American Cancer Society; served as president of the Bridgeport Medical Society, president of Bridgeport Rotary Club, chairman of the Community Nutrition Service, chairman of the public health committee of the Bridgeport Chamber of Commerce, and chairman of the public health committee of the Council of Social Agencies; chairman, Connecticut State Commission on the Care and Treatment of the Chronically Ill, Aged and Infirm, and director and vice-president, Connecticut Medical Service; president of the Conference of Presidents and Other Officers of State Medical Societies, and president of the Council of New England State Medical Societies; director department of obstetrics, St. Vincent's Hospital; attending gynecologist, Bridgeport City Dispensary; on the courtesy staff, Bridgeport Hospital; consulting obstetrician and gynecologist, Englewood Hospital in Bridgeport, and Laurel Heights State Tuberculosis Sanatorium in Shelton; director, Gaylord Farm Sanatorium, Wallingford; member of the board of medical visitors, Institute of Living, Hartford; died Sept. 28, aged 61, of carcinoma of the lung.

Brennan, Edward Lizarian ⊕ Hartford, Conn.; born in Ireland, May 21, 1900; National University of Ireland, 1923; specialist certified by the American Board of Psychiatry and Neurology; member of the American Psychiatric Association and the New England Society of Psychiatry; served as instructor in psychiatry at Columbia University College of Physicians and Surgeons in New York; one of the founders of the Catholic Psychiatric Guild; for many years on the staff of the Institute of Living; affiliated with the Veterans Administration Hospital in Northampton, Mass.; visiting neuropsychiatrist on the medical and surgical staff of St. Francis Hospital, where he died Sept. 27, aged 53, of pulmonary embolus, thrombophlebitis of the left leg, and arteriosclerotic heart disease.

Benjamin, Arthur Edwin ⊕ Minneapolis; born in Hutchinson, Minn., in 1868; University of Minnesota College of Medicine and Surgery, Minneapolis, 1892; professor emeritus of obstetrics and gynecology at his alma mater; member of the House of Delegates of the American Medical Association in 1911; past president of the Hennepin County Medical Society and the Alumni Association of the University of Minnesota Medical School; member of the Western Surgical Association; fellow of the American College of Surgeons; consulting gynecologist, Minneapolis General Hospital; affiliated with St. Barnabas Hospital and Northwestern Hospital, where he died Oct. 1, aged 84, of carcinoma of the prostate.

Delph, John Francis ⊕ Michigan City, Ind.; born in Fairmount, Ind., April 3, 1892; Northwestern University Medical School, Chicago, 1922; associate professor of otolaryngology at his alma mater; specialist certified by the American Board of Otolaryngology; member of the American Academy of Ophthalmology and Otolaryngology, Illinois State Medical Society, American Laryngological, Rhinological and Otological Society, and the American Broncho-Esophagological Association; served on the staff of the Passavant Memorial Hospital in Chicago; died in Gary, Ind., Nov. 7, aged 61, of pulmonary embolism and coronary heart disease.

Myers, Alonzo Harrison, Charlotte, N. C.; born April 14, 1888; North Carolina Medical College, Charlotte, 1911; University and Bellevue Hospital Medical College, New York, 1916; member of the American Academy of Orthopaedic Surgeons; fellow of the American College of Surgeons; served during World War I; received the French Medal d'Honneur from General Pershing in a celebration on May 20, 1922; formerly affiliated with Charlotte Memorial, Mercy, and Presbyterian hospitals in Charlotte, and consultant at the James Walker Memorial Hospital in Wilmington; died Oct. 19, aged 65, of a heart attack.

Kindred, John Cramer ⊕ Long Island City, N. Y.; born in Astoria, N. Y., April 18, 1903; Medical College of Virginia, Richmond, 1930; specialist certified by the American Board of Psychiatry and Neurology; member of the American Psychiatric Association; past president of the National Association of Private Psychiatric Hospitals; director and consultant at the River Crest Sanitarium in Astoria; consultant and formerly consultant at the Belle Mead (N. J.) Sanatorium; associate attending psychiatrist at Queens General Hospital in Jamaica; died in Forest Hills Oct. 25, aged 50, of cardiovascular disease.

⊕ *Indicates Member of the American Medical Association.*

Waldapfel, Richard ⊕ Grand Junction, Colo.; born April 2, 1895; Medizinische Fakultät der Universität, Vienna, Austria, 1921; specialist certified by the American Board of Otolaryngology; member of the American Academy of Ophthalmology and Otolaryngology, Colorado Otolaryngological Society, and the Pacific Coast Oto-Ophthalmological Society; fellow of the American College of Surgeons; on the staff of St. Mary's Hospital and the Veterans Administration Hospital; died in the Presbyterian Hospital, Denver, Sept. 26, aged 58, of carcinoma of the pancreas.

Strickler, Albert ⊕ Philadelphia; born Sept. 13, 1886; Jefferson Medical College of Philadelphia, 1907; specialist certified by the American Board of Dermatology and Syphilology; member of the American Academy of Dermatology and Syphilology; formerly professor of dermatology and syphilology at Temple University School of Medicine; founder of the Skin and Cancer Hospital, where he was medical director for many years; author of "The Skin: Its Care and Treatment" and "Textbook on Diseases of the Skin and Syphilis"; died Nov. 8, aged 67.

Doran, Martha Venetia ⊕ Northampton, Mass.; born in Iroquois, Ontario, Canada, April 18, 1900; Woman's Medical College of Pennsylvania, Philadelphia, 1943; member of the Medical Society of the State of North Carolina; certified by the National Board of Medical Examiners; assistant physician at Smith College since 1950; served in a similar capacity for three years at the Woman's College of the University of North Carolina in Greensboro; died in the Harkness Pavilion of the Columbia Presbyterian Medical Center in New York, Nov. 2, aged 53.

Aird, John William ⊕ Long Beach, Calif.; University of California Medical School, San Francisco, 1893; fellow of the American College of Surgeons; member and past president of the Utah State Medical Society; formerly practiced in Provo, Utah, where he was affiliated with the Utah State Hospital and was owner and medical director of the Aird Hospital; died Oct. 28, aged 90.

Allen, Joseph R., Urbana, Ill.; Barnes Medical College, St. Louis, 1898; died Oct. 24, aged 80.

Atwood, Abner Lowe ⊕ Birmingham, Ala.; University of Nashville Medical Department, 1907; member of the American Urological Association; on the staff of the South Highlands Infirmary and for many years on the staff of the Hillman Hospital; on the courtesy staff of Baptist, Carraway Methodist, and East End Memorial hospitals; died Nov. 4, aged 75, of cerebral thrombosis.

Bailey, Desmond Mark ⊕ Carbondale, Pa.; Jefferson Medical College of Philadelphia, 1928; member of the staff of Carbondale General Hospital, and the Wayne County Memorial Hospital in Honesdale; died in Mount Sinai Hospital, New York, Aug. 19, aged 50, of coronary disease.

Baxter, James Hubert ⊕ Ashburn, Ga.; Atlanta College of Physicians and Surgeons, 1908; for many years secretary-treasurer of the Turner County Medical Society; served on the city council; died Oct. 13, aged 74.

Baxter, Lewis Thomas ⊕ Chicago; University of Illinois College of Medicine, Chicago, 1920; member of the Industrial Medical Association; for many years physician and surgeon for the *Chicago Daily News;* affiliated with Alexian Brothers Hospital; died Nov. 12, aged 57, of carcinoma of the spine.

Bechtol, Emery Alvin, Montpelier, Ohio; Michigan College of Medicine and Surgery, Detroit, 1892; served during World War I; died Sept. 14, aged 83.

Beebe, Jay Lee ⊕ Laguna Beach, Calif.; Northwestern University Medical School, Chicago, 1903; an Associate Fellow of the American Medical Association; died Oct. 21, aged 79, of coronary occlusion.

Bechler, Louis L., Chicago; Northwestern University Medical School, Chicago, 1900; died in the Illinois Central Hospital Nov. 7, aged 75, of acute papillary necrosis of the kidneys and diabetes mellitus.

Bell, Robert Fleming, Cleveland; University of Buffalo School of Medicine, 1945; certified by the National Board of Medical Examiners; at one time affiliated with Sunny Acres, Cuyahoga County Tuberculosis Hospital; served as a medical missionary in Ethiopia, Africa; died in Chicago Oct. 28, aged 35.

Benton, George R. ⊕ Fremont, N. C.; Medical College of Virginia, Richmond, 1901; died in the Wayne Memorial Hospital, Goldsboro, Aug. 31, aged 74, of carcinoma of the colon.

Benz, Alvin Hermann ⊕ Ann Arbor, Mich.; University of Michigan Medical School, Ann Arbor, 1931; specialist certified by the American Board of Ophthalmology; member of the American Academy of Ophthalmology and Otolaryngology; served during World War II; on the staff of St. Joseph's Mercy Hospital in Ann Arbor and the Beyer Memorial Hospital in Ypsilanti; died Aug. 20, aged 46.

Brown, Barton Levi, Penn Wynne, Pa.; Jefferson Medical College of Philadelphia, 1891; died Oct. 16, aged 88, of heart disease.

Caccini, Attilio Mario ⊕ Major, U. S. Army, retired, New York City; Regia Università degli Studi di Roma. Facoltà di Medicina e Chirurgia, Italy, 1900; served during World War I; entered the regular army as a major in the medical corps of the U. S. Army on Sept. 8, 1920; retired June 29, 1922; died Aug. 27, aged 77, of arteriosclerotic heart disease.

Campau, George Henry ⊕ Detroit; Detroit College of Medicine and Surgery, 1917; served during World War I; on the staff of the Providence Hospital, where he died Nov. 2, aged 60, of cerebrovascular accident and arteriosclerosis.

Carroll, Gerald John ⊕ New York City; Fordham University School of Medicine, New York, 1919; served on the staffs of Morrisania Hospital and Union Hospital, where he died Nov. 4, aged 58, following rupture of a diverticulum.

Carter, Curtis Braxton ⊕ Columbus, Ga.; Medical College of Alabama, Mobile, 1890; for many years practiced in New York City, where he was affiliated with the Bellevue Hospital; served on the staff of the City Hospital; died Oct. 7, aged 85, of cerebral hemorrhage.

Carver, William Franklin ⊕ Fort Dodge, Iowa; Hospital College of Medicine, Louisville, 1893; past president of the Webster County Medical Society; affiliated with St. Joseph Mercy Hospital and the Lutheran Hospital, where he died Oct. 28, aged 83, of arteriosclerotic heart disease and uremia.

Cary, Eugene, San Mateo, Calif.; Rush Medical College, Chicago, 1912; specialist certified by the American Board of Obstetrics and Gynecology; formerly practiced in Chicago, where he was affiliated with St. Luke's Hospital; died Nov. 5, aged 66.

Causey, Frederick Archibald, Jacksonville, Ill.; St. Louis University School of Medicine, 1914; formerly assistant managing officer of the Chicago State Hospital; for many years affiliated with Jacksonville State Hospital; served as managing officer of the Lincoln (Ill.) State School and Colony; died in the Community General Hospital, Sterling, Nov. 2, aged 69.

Cayley, Frank Joseph ⊕ Indianapolis; University of Illinois College of Medicine, Chicago, 1913; died in the Central State Hospital Sept. 18, aged 66, of angina pectoris.

Caywood, James Robert ⊕ Piqua, Ohio; Starling Medical College, Columbus, 1897; on the staff of the Memorial Hospital, where he died July 3, aged 81, of acute myocardial infarction.

Colehour, Samuel Phillip ⊕ Mount Carroll, Ill.; National Medical College, Chicago, 1899; died Aug. 10, aged 77.

Craddock, Paul Tulane, Rochester, N. Y.; University of Virginia Department of Medicine, Charlottesville, 1950; served during World War II; resident at the Strong Memorial Hospital; died Sept. 17, aged 34.

Currer, Paul Richard ⊕ Milwaukee; Marquette University School of Medicine, Milwaukee, 1942; member of the American Academy of General Practice; served during World War II; died in Ashland Aug. 22, aged 36, of ruptured appendix and peritonitis.

d'Avignon, Francis Wright ⊕ Lake Placid, N. Y.; McGill University Faculty of Medicine, Montreal, Canada, 1943; interned at the Royal Victoria Hospital in Montreal; served during World War II; died Aug. 27, aged 36, of acute coronary occlusion.

Dinan, Joseph Francis, Wakefield, Mass.; Boston University School of Medicine, 1936; died in the Faulkner Hospital, Boston, Oct. 8, aged 47, of acute adrenal insufficiency and congenital heart disease.

Donathan, Earl Raymond ⊕ Knoxville, Tenn.; University of Tennessee College of Medicine, Memphis, 1935; fellow of the International College of Surgeons; died July 27, aged 45, of a heart attack.

Dowson, Albert Wilson, Evanston, Ill.; Jenner Medical College, Chicago, 1915; died Aug. 11, aged 59, of coronary sclerosis.

Dumm, Colin Marcus, Erie, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1900; died in the Veterans Administration Center, Dayton, Ohio, Sept. 24, aged 78.

Duncan, Will Cunningham ⊕ Los Angeles; Northwestern University Medical School, Chicago, 1915; affiliated with California Lutheran and the Queen of Angels hospitals; died Sept. 24, aged 70, of carcinoma of the tongue.

Erb, Howard Renninger ⊕ Allentown, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1940; specialist certified by the American Board of Neurological Surgery; served during World War II; formerly a fellow in neurosurgery at Mayo Foundation in Rochester, Minn.; died Oct. 23, aged 38.

Farthing, Robert R. ⊕ Ozark, Mo.; St. Louis College of Physicians and Surgeons, 1901; died Sept. 24, aged 78, of coronary thrombosis.

Furusawa, Takashi, Los Angeles; Osaka Imperial University Medical Faculty, Osaka, Japan, 1899; Chicago College of Medicine and Surgery, 1916; died Sept. 29, aged 77, of a heart attack.

Glazer, Henry G. ⊕ New York City; Long Island College Hospital, Brooklyn, 1921; specialist certified by the American Board of Ophthalmology; for many years on the staff of the Bronx Eye and Ear Infirmary; died in the Beth Israel Hospital Nov. 6, aged 56, of bacteremia.

Good, Benjamin F. ⊕ Lancaster, Pa.; Baltimore Medical College, 1900; died Oct. 23, aged 81.

Granata, Tancredi Giovanni, Providence, R. I.; Tufts College Medical School, Boston, 1915; served with the Veterans Administration; died Sept. 17, aged 62, of myocardial infarction.

Granger, William Leonard ⊕ Chappaqua, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1932; died Aug. 20, aged 51, of pulmonary edema, coronary sclerosis, and cardiac decompensation.

Korb, David Adam, Cincinnati; Medical Department of the University of Cincinnati, 1910; died Sept. 4, aged 69.

Kupelian, Nessib Simon ⊕ Pownal, Maine; Medical School of Maine, Portland, 1916; member of the New England Society of Psychiatry; medical superintendent of Pownal State School; died in the Central Maine General Hospital, Lewiston, Aug. 28, aged 67, of cerebral thrombosis.

Lane, Irvin J., Ossining, N. Y.; New York Homeopathic Medical College, New York, 1883; director of the Westchester County Savings and Loan Association; died in Middletown Oct. 27, aged 92.

Lanzafame, Sare Anthony ⊕ Farmington, Mo.; St. Louis University School of Medicine, 1941; county health officer; served at State Hospital; died in Barnes Hospital, St. Louis, Nov. 1, aged 39, of a heart attack.

Lindt, Harriet L., South Bend, Ind.; John A. Creighton Medical College, Omaha, 1900; died Aug. 10, aged 75, of metastatic pulmonary sarcoma.

Lyda, Gideon Colwell, Atlanta, Mo.; Kentucky School of Medicine, Louisville, 1888; died in the Woodland Hospital, Moberly, Sept. 5, aged 88.

McCall, James Herald, Lake City, Mich.; Detroit College of Medicine, 1911; served during World War I; at one time connected with the Michigan State Health Department; served as health officer of Marshall County, W. Va.; for many years coroner of Missaukee County; died Oct. 10, aged 69.

MacKenzie, Ian ⊕ Tulsa, Okla.; McGill University Faculty of Medicine, Montreal, Canada, 1927; specialist certified by the American Board of Orthopaedic Surgery; member of the American Academy of Orthopaedic Surgeons; fellow of the International College of Surgeons and the American College of Surgeons; formerly director of the Hillcrest Polio Center; affiliated with St. John's and Hillcrest Memorial hospitals; died Oct. 12, aged 50, of injuries received in an automobile accident.

Matternes, James G. ⊕ Sinking Spring, Pa.; Jefferson Medical College of Philadelphia, 1897; served during World War I; died Oct. 28, aged 84, of cerebral thrombosis.

Mead, Franklin Braidwood ⊕ Riverside, Calif.; Northwestern University Medical School, Chicago, 1938; formerly a fellow in surgery at Mayo Foundation in Rochester, Minn.; member of Sigma Xi and of the Alumni Association of the Mayo Foundation; on the staff of the Riverside Community Hospital; died Oct. 28, aged 45, of mitral valvulitis with insufficiency.

Moyer, Jacob C. ⊕ Scranton, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1908; L.R.C.S., Edinburgh, Scotland, 1914; died Oct. 4, aged 74, of coronary occlusion.

Null, Frederick Folket ⊕ Hawarden, Iowa; Sioux City (Iowa) College of Medicine, 1907; member of the American Academy of General Practice; affiliated with Hawarden Community Hospital, where he died Oct. 15, aged 75, of myocarditis.

Oliver, Elbert Wilbur, Miami Springs, Fla.; Marion-Sims College of Medicine, St. Louis, 1893; member of the American Society of Anesthesiologists; died in the Jackson Memorial Hospital, Miami, Sept. 21, aged 79, of duodenal ulcer.

Oppenheimer, Arnold ⊕ San Francisco; Universität Heidelberg Medizinische Fakultät, Baden, Germany, 1919; died in the University of California Hospital Aug. 20, aged 61, of acute myocardial infarction.

Pharris, Crit, Glastonbury, Conn.; University of Tennessee College of Medicine, Memphis, 1929; member of the American Public Health Association and the Industrial Medical Association; for many years associated with the United Aircraft Corporation; died in Hartford (Conn.) Hospital July 30, aged 52, of coronary thrombosis.

Randall, Arthur G. ⊕ Providence, R. I.; University of Pennsylvania Department of Medicine, Philadelphia, 1895; died in St. Joseph's Hospital Nov. 7, aged 82, of carcinoma of the rectum.

Rizzo, Frank ⊕ Grosse Pointe Park, Mich.; Wayne University College of Medicine, Detroit, 1929; on the staff of St. Joseph Mercy Hospital in Detroit, where he died Sept. 13, aged 49, of rheumatic heart disease and pulmonary thrombosis.

Rosen, Harold Leon, Brooklyn; Tulane University of Louisiana School of Medicine, New Orleans, 1944; served during World War II; died in White Sulphur Springs, N. Y., Aug. 28, aged 35, of amyotrophic lateral sclerosis.

Salter, Paul Pullen ⊕ Eufaula, Ala.; Tulane University of Louisiana School of Medicine, New Orleans, 1916; member of the Southeastern Surgical Congress and the American Academy of General Practice; served during World War I; at one time field director of sanitation for the state board of health; a trustee of the University of Alabama; owner of the Salter Hospital; died in New Orleans Nov. 3, aged 62, of carcinoma of the prostate.

Sill, Joseph, Pasadena, Calif.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1899; served during World War I; at one time practiced in Detroit, where he was affiliated with the Harper Hospital; died Oct. 19, aged 78, of generalized arteriosclerosis and terminal bronchopneumonia.

Smith, Thomas Caesar, Washington, D. C.; Howard University College of Medicine, Washington, 1909; formerly on the board of directors of the Industrial Bank of Washington; died in Freedman's Hospital Nov. 1, aged 75.

Staines, Albert G., St. Clair Shores, Mich.; Detroit College of Medicine and Surgery, 1917; died in the Providence Hospital, Detroit, Sept. 19, aged 71, of coronary thrombosis.

Steinhauser, Charles Gilbert, Gowanda, N. Y.; University of Michigan Homeopathic Medical School, Ann Arbor, 1912; died Aug. 11, aged 70, of uremia, nephrosclerosis, and diabetes mellitus.

Strasner, Thomas J., Nashville, Ark. (licensed in Arkansas in 1903); died Oct. 18, aged 84.

Stroup, Paul Eugene, Miami, Fla.; Jefferson Medical College of Philadelphia, 1919; died Sept. 23, aged 59, of coronary disease.

Sutton, John Chalmers ⊕ New Brighton, Pa.; Hahnemann Medical College and Hospital of Philadelphia, 1902; served as president of the staff of Providence Hospital in Beaver Falls and Beaver Valley General Hospital; died Oct. 11, aged 75, of carcinoma of the throat.

Sweet, Charles Frederick ⊕ Pawtucket, R. I.; Harvard Medical School, Boston, 1894; at one time superintendent of health, city physician, and police surgeon of Central Falls; associate medical examiner for the Pawtucket-Central Falls district from 1912 until 1932 and the medical examiner from 1932 to 1936; on the consulting staff, Memorial Hospital; died Oct. 19, aged 84, of chronic ulcerative colitis and arteriosclerotic heart disease.

Thomson, Arthur Milton, Cherokee, Iowa; University of Minnesota College of Medicine and Surgery, Minneapolis, 1904; died in Minneapolis Sept. 18, aged 75, of myocardial infarction.

Tinstman, Abraham Lincoln, Cleveland; Western Pennsylvania Medical College, Pittsburgh, 1896; died Nov. 2, aged 93, of uremia, pyelonephritis, and hypertrophy of the prostate.

Toomajan, Harry John ⊕ Grayslake, Ill.; Loyola University School of Medicine, Chicago, 1926; served during World War II; affiliated with St. Therese's Hospital and Lake County General Hospital in Waukegan, where he died Nov. 11, aged 55, of carcinoma of the left lung.

Van Norden, William Erickson, Plainfield, N. J.; Hering Medical College, Chicago, 1913; practiced in Chesapeake City, Md., for many years; died in the Muhlenberg Hospital Oct. 24, aged 90, of arteriosclerotic heart disease and pneumonia.

Vaught, John Lester ⊕ Dos Palos, Calif.; Creighton University School of Medicine, Omaha, 1938; on the staff of the Dos Palos Hospital; died in San Francisco Oct. 18, aged 41, of cerebral hemorrhage.

Walz, Frank Gebhard ⊕ Buffalo; University of Buffalo School of Medicine, 1909; served during World War I; member of the Association of School Physicians; for many years physician for the board of education, served on the U. S. Board of Examining Surgeons and examining physician for the Metropolitan Insurance Company; on the staff of the Sisters of Charity Hospital, where he died Oct. 15, aged 66, of arteriosclerosis and pulmonary edema.

Watkins, Martin Lucius ⊕ Glenwood, Ala.; Vanderbilt University School of Medicine, Nashville, Tenn., 1899; died in the Edge Hospital, Troy, Oct. 29, aged 81.

Wendell, Thomas T., Lexington, Ky.; Meharry Medical College, Nashville, Tenn., 1900; also a graduate in pharmacy; for many years affiliated with Eastern State Hospital, where the Wendell building was named and dedicated in his honor; served on the staff of St. Joseph Hospital; died Oct. 4, aged 76, of cerebral hemorrhage.

Wiland, Louis, Erie, Pa.; Long Island College Hospital, Brooklyn, 1908; one of the original staff members of Beth El Hospital in Brooklyn, where he was an associate in medicine for many years; died Nov. 2, aged 66, of coronary thrombosis.

Wilson, William ⊕ Chicago; Loyola University School of Medicine, Chicago, 1916; affiliated with West Suburban Hospital in Oak Park, Ill., where he died Oct. 3, aged 63, of cerebral hemorrhage and hypertension.

Wirsig, Arnold Oswald ⊕ Shenandoah, Iowa; Drake University College of Medicine, Des Moines, 1912; died in the Hand Community Hospital Aug. 22, aged 69, of coronary thrombosis.

Wolff, Thomas Conrad ⊕ Baltimore; McGill University Faculty of Medicine, Montreal, Canada, 1917; associate professor of medicine at the University of Maryland School of Medicine and College of Physicians and Surgeons; died Aug. 25, aged 62.

Wood, George Harden ⊕ Batesville, Miss.; University of Louisville (Ky.) Medical Department, 1891; for many years served as county health officer and on the school board; local surgeon for the Illinois Central Railroad; died Sept. 27, aged 87, of cardiac failure.

Woods, Arthur Daniel ⊕ State Center, Iowa; State University of Iowa College of Medicine, Iowa City, 1906; member of the American Academy of General Practice; member of the House of Delegates of the American Medical Association in 1938 and 1940-1953; for many years member of the state board of medical examiners; affiliated with Evangelical Deaconess Home and Hospital and St. Thomas Mercy Hospital in Marshalltown; died in Billings, Mont., Aug. 17, aged 72, of coronary occlusion.

Wylie, John Thomas, Dallas, Texas; Baylor University College of Medicine, Dallas, 1928; served during World War II; died Sept. 13, aged 50, of coronary occlusion.

Yeo, Gordon Hurst ⊕ Big Rapids, Mich.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1912; served during World War I; affiliated with Community Hospital, where he died Sept. 15, aged 66, of coronary thrombosis.

Young, Albert Frederick ⊕ Milwaukee; Rush Medical College, Chicago, 1894; assistant clinical professor of psychiatry emeritus at Marquette University School of Medicine; past president of the Milwaukee Neuropsychiatric Society; for 22 years superintendent of the Milwaukee County Hospital for the Insane; died in Columbia Hospital Aug. 24, aged 83, of coronary thrombosis.

Zimmerman, Amelia, La Porte, Ind.; the Hahnemann Medical College and Hospital, Chicago, 1904; died in Waterford Aug. 6, aged 86, of arteriosclerosis and hypertension.

Zimmerman, Henry Samuel ⊕ Cameron, Ill.; Northwestern University Medical School, Chicago, 1896; served on the staffs of Monmouth (Ill.) Hospital and Galesburg Cottage and St. Mary's hospitals in Galesburg; died Nov. 7, aged 82, of angina pectoris.

GOVERNMENT SERVICES

ARMY

46th Surgical Hospital in Korea.—With the cessation of combat casualties, the 46th Army Surgical Hospital now operates on a semipeacetime status, while remaining constantly combat ready at the same time. The preoperative section of the hospital is now filled with beds. Sick call, of secondary importance when shooting was in progress four months ago, now handles thousands of patients a month. In surgery, where doctors worked on a 24 hour basis during hostilities, doctors now concentrate on routine surgery of a voluntary nature. In the medical section, usually filled to capacity, soldiers are receiving some of the best care in Korea. Movies and increased Red Cross facilities make life happier for patients at the hospital. The x-ray machines are being operated from dawn to dark. The neurosurgical section is active, since the 46th Army Surgical Hospital is one of only two Army surgical hospitals in Korea with equipment for such operations. Should war break out again, the hospital is prepared to handle any emergency that might arise, and it is just as mobile now as it was during combat. All medicaments and equipment are packed in open boxes, ready to be closed up and moved out, if necessary, at a moment's notice. Several practice moves have already been made successfully. Moving is commonplace at the 46th Army Surgical Hospital, which was the first Army surgical hospital to arrive in Korea in September, 1950.

NAVY

New Type of Reserve Unit.—A new type reserve unit for naval reserve doctors and other members of the medical profession is being organized in Chicago, Rear Adm. Francis P. Old, commandant, ninth naval district, announced. The unit, to be called Naval Reserve Surface Division (Medical) 9-240, will meet at Veteran's Research Hospital, newly completed skyscraper medical center, near the downtown campus of Northwestern University.

Doctors, medical specialists, veteran Navy hospital corpsmen, and administrative personnel are eligible to belong to this unit, which provides one day's pay for each drill attended. There are 48 scheduled drills per year. This is the first time Navy medical reservists have been able to join a paid reserve unit with regularly scheduled drill periods and definite curriculums for its participants.

The Chicago Naval Reserve Medical Surface Division is one of five established in a test program. Other units have been set up in Boston, New York, Charleston, S. C., and San Francisco. If these units prove successful, the program will be extended to other major cities of the country. Officers eligible for the Chicago Naval Reserve medical unit must be members of the Navy's medical corps and its medical specialist branch. They must be in the grades from lieutenant (junior grade) through commander, or enlisted personnel, including hospitalmen, yeomen, personnel men, and storekeepers. Officers and men of Chicago and its suburbs interested in affiliation with the Naval Reserve Medical Surface Division should call Capt. Fred Fluegel, U. S. N., Commanding Officer, Naval Reserve Training Center, foot of Randolph Street. His phone number is CEntral 6-6828.

Personal.—Rear Adm. Lamont Pugh, Surgeon General, was elected to the board of governors at the recent Clinical Congress of the American College of Surgeons. He will serve through the 1956 annual meeting.

AIR FORCE

New Chief of Preventive Medicine Division.—Col. Theodore C. Bedwell Jr. (MC) has assumed duties as chief of the preventive medicine division, Office of the Air Force Surgeon General, Washington, D. C. Colonel Bedwell was staff surgeon for the 5th Air Force in Japan and went to Korea with the advanced headquarters at the beginning of the conflict. He is certified by the American Board of Preventive Medicine.

Colonel Bedwell attended the Air War College, Maxwell Air Force Base, Alabama, and served in the Department of Defense on the staff of the Assistant Secretary (health and medical), prior to his present assignment. He succeeds Col. Fratis L. Duff, who is now commandant of Gunter Branch, USAF School of Aviation Medicine, Gunter Air Force Base, Alabama.

Medical Officer Receives Award.—Major Solomon E. Lifton (MC) has been awarded the Commendation Ribbon with metal pendant. He was commended for meritorious service during May 15, 1952, to Nov. 30, 1952, as command surgeon to the commander of Joint Task Force 132, which conducted nuclear and thermonuclear tests in conjunction with the Atomic Energy Commission at the Eniwetok Proving Grounds. He is rated as a flight surgeon and is presently assigned to the preventive medicine division in the Office of the Air Force Surgeon General.

VETERANS ADMINISTRATION

Residencies Available.—Vacancies are available for residents in internal medicine, pulmonary diseases, and general surgery at the VA Hospital, Albuquerque, N. Mex. The residency training program is sponsored by the University of Colorado School of Medicine. The residencies in internal medicine and general surgery are approved for three years and the residency in pulmonary diseases for one year. Salaries range from $2,640 to $3,300 per annum. There are also vacancies for full-time physicians on the chest service. For information, write to the Manager, VA Hospital, Albuquerque, N. Mex.

MISCELLANEOUS

White House Conference on Highway Safety.—President Eisenhower has called a White House conference on highway safety for Feb. 17-19, 1954, in Washington, D. C. Rear Adm. Harold B. Miller, U. S. N., retired, has been named director of the conference and Secretary of Commerce Sinclair Weeks will serve as general chairman. Admiral Miller was formerly director of public information for the U. S. Navy and now is head of the department of public information of the American Petroleum Institute. He said that the highway safety movement "is certainly one of our greatest and most urgent humanitarian challenges. Deaths on streets and highways this year will approach 40,000, a tragic and needless toll. Injuries will number nearly 1.5 million. As the President has pointed out, casualties in motor traffic in just one year exceed total American casualties for the whole Korean War." The February conference will bring to Washington outstanding representatives of business, agriculture, labor, women's groups, public officials, community, religious and national organizations, and the media of public information. Secretary Weeks said, "There is no mystery about what ought to be done, in every town and every state, to curtail the traffic accident toll. What's lacking is effective leadership, local leadership, to put this great humanitarian crusade into organized action. The President hopes that this conference will stimulate and encourage that kind of leadership in all parts of the nation."

FOREIGN LETTERS

ITALY

International Symposium on Cortisone.—An international symposium on cortisone was held in September at the Milan Technical Museum, where all the mechanical and technical drawings of Leonardo da Vinci are housed. The international symposium on vitamins had been held in the same place some months before (*J. A. M. A.* 152:1453 [Aug. 8] 1953). Prof. L. Villa, director of the medical clinic University of Milan, was the chairman. Among the foreign representatives were C. Levi Pirani, University of Illinois, Chicago, B. E. Lowenstein and Chambers, University of Miami and Cancer Institute of Miami, Fla., A. Gibson, Rahway (N. J.), A. Celestino da Costa, University of Lisbon, M. P. Stack Dunne, Cambridge University (Great Britain), P. Leroy, Paris Collège de France, F. Coste and F. Delbarre, Paris faculty of medicine and Cochin Hospital, R. Luft and B. Sjögren, Serafimerlasarett of Stockholm, E. Martin and G. Majno, Geneva medical polyclinic, W. S. Copeman, London Middlesex Hospital, K. Bröchner-Mortensen, University of Copenhagen, and J. Roskam and H. van Cauwenberg, medical clinic, University of Bavaria. Among the Italian participants were C. Cavallero, G. Bossa, T. Lucherini, E. Cecchi, G. Sala, C. B. Ballabio, R. Scalabrino, M. Rossanda, T. Galli, A. Marmont, A. Lunedei, E. Trabucchi, A. Rebecchi, and F. Ceresa.

The first part of the symposium dealt with the biology of cortisone and the adrenal cortex. It is well known that the adrenal needs vitamin C to produce its corticoids, especially hydrocortisone (compound F). The gland satisfies this need by withdrawing vitamin C from the circulating blood or the cellular tissues in which it is present or by pouring suddenly its reserve into the cortex. The question arises as to how the organism elaborates its own natural vitamin C. During the last months the studies of some English scientists—Isherwood, Mapson, and others—have indicated that plants and animals elaborate their own vitamin C by withdrawing it from sugars. The molecular structure of these sugars differs, however, from that of the sugars from which synthetic or artificial vitamin C is prepared. There is hope, therefore, that it may become possible to induce the human organism to build its own vitamin C by an endogenous or spontaneous way. The spontaneous production of cortisone would be greatly benefited by an endogenous formation of vitamin C. The other chemical element that the adrenal needs for its corticoids is cholesterol.

Prof. A. Celestino da Costa discussed the structure and function of the adrenal cortex. According to him, the concept that there are special zones in the adrenal for the secretion of the two types of cortical hormones—one exerting its activity mainly on the mineral metabolism and the other on the glycocorticoid metabolism—has not been confirmed. As for the three zones to which the three different secretions of the adrenal have been ascribed, da Costa is of the opinion that it is only a matter of three "stages" or three "phases" in which the adrenal cells find themselves, i. e., whether they are or not filled with products of secretion (first zone), or have been emptied (second zone). The third zone varies according to the animal species and depends on the form that the lipids and cholesterol derivatives assume in the cells of the adrenal cortex as in droplets and granulations.

C. Levi Pirani discussed ascorbic acid and the adrenal cortex. An increased stress involves a greater demand of the adrenals for ascorbic acid. Nevertheless it has been proved that the function of the adrenal cortex continues even when it has poured its own reserve of ascorbic acid. This evidently proves that it must supply itself with vitamin C from other sources and other nonspecific vitamin syntheses. From this arises the necessity to administer large quantities of ascorbic acid in case of a stress such as trauma or a burn that involves greater work for the adrenals.

B. E. Lowenstein discussed the effects of cortisone on the capillary circulation. Every "stress" has repercussions on the innervation of the arterioles and metarterioles that, because of the spasm, transmit the effects to the capillaries. Cortisone prevents many of these neurocirculatory disturbances.

C. Cavallero reported on cortisone and infections. He asserted that cortisone encourages the infection not because it alters the immunization system (gamma globulin) but because it slows down some activities of the cellular tissues. These activities are connected with the functions of the mesenchyma (histiocytes, plasma cells, mast cells, and fibroblasts). In other words, the infections are encouraged by cortisone not because this influences the antibodies system but because it exerts its fibrolytic, antihyaluronidase, and antirheumatic action. Although this action is beneficial from the standpoint of rheumatism, it attenuates at the same time the defense of the cellular tissues against the infecting germs.

M. Stack Dunne said that the concept of the adrenal cortex being controlled only by the hypophysis and one hormone, i. e., corticotropin, should be modified. He is of the opinion that "pure" preparations of corticotropin are rather a complex of other substances as well as the true and authentic corticotropin hormone. There could be, in other words, within the corticotropin itself a "family" of various polypeptides with a variety of actions and stimulations on the adrenal cortex.

The second part of the symposium dealt with the metabolic effects of cortisone. F. Coste discussed the hormonal secretions of rheumatic patients, G. Bossa the metabolism of carbohydrates, R. Luft comparative metabolic effects of cortisone, corticotropin, and desoxycorticosterone, Lucherini the interferences between cortisone and somatotropic hormone, Martin cortisone and bone tissue, and Sala the influence of cortisone on water and electrolytes metabolism in man.

The third part of the symposium dealt with the clinical effects of cortisone. The reports of W. S. C. Copeman made this the most interesting part of the convention. He concluded that rheumatic disease reappears as soon as cortisone therapy is interrupted no matter what doses and what routes of administration have been used. Ballabio, who was the first Italian to report on the clinical use of cortisone in Italy, emphasized the action of the drug in rheumatic carditis.

Scalabrino is so enthusiastic about cortisone in treatment of rheumatic disease that he censured the salicylic therapies that have been used until recently all over the world. But Roskam refuted Scalabrino's statements and said that the salicylates, mainly sodium salicylate and aspirin, should not be abandoned but their true effects should be evaluated, especially in view of the discovery of cortisone. It was proved in fact that they produce, even if in small quantities, corticotropin because they stimulate the hypothalamus, diencephalon, hypophysis, and adrenals. Aspirin and cortisone can be administered concurrently without fear of therapeutic antagonism.

The personal experience of Maramont (Italy) with cortisone and corticotropin in acute lupus erythematosus disseminatus is important. The severe symptoms generally regress but they do reappear when resistance to the drug has developed. Nonetheless the treatment is always useful. Cortisone and corticotropin therapy aggravate severely the condition of patients in whom the disease is mild but the renal function is impaired.

Robecchi, from Turin, reported on the first 110 patients (119 joints, 305 injections) he treated with cortisone. He obtained the best effects in patients with periarthritis of the shoulder. The results varied in patients with chronic poly-

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The items in these letters are contributed by regular correspondents in the various foreign countries.

arthritis. However temporary the surprising improvements may be, cortisone can be combined with complementary treatments of polyarthritis that potentiate the effects of cortisone. All the patients tolerated the therapy very well.

Androgen Therapy in Gynecology.—Prof. Angelo Migliavacca, University of Milan gynecologic clinic, read a paper on the modern evolution of androgen therapy in gynecology before the Swiss Gynecological Society in Bern. He recalled the history of the first application of testicular extracts in gynecology and discussed the importance of their dosage in relation to various phenomena that are linked to the complex sexual hormonal balance. Many gynecologic as well as systemic disturbances in women may be treated with androgenic steroids. Often a clear distinction between these disturbances is not possible. Sometimes androgens given for a gynecologic disturbance may produce unwanted side-reactions, as in metrorrhagia. While they have a hemostatic effect on the genital organs, they may also cause hypertrichosis. Androgens given for nephrosis may cause irregularity and diminution of the menses, sometimes to the point of amenorrhea. It seems, however, that the general symptoms appear only when massive doses of hormones are used.

Professor Migliavacca believes that, although the mechanism of action of the androgens is difficult to interpret in some cases, in others they are clear, as in the case of inhibition of lactation through the inhibitory action of the androgens on the hypophysis. The therapeutic effect of androgens on some disturbances of the breast (mastodynia, fibrocystic mastopathy, and the so-called premenstrual tension) may be due to a progesterone-like action. It is less easy to explain the metabolic effects of the androgens and especially their anabolic effect. This is one of the most characteristic side-effects and because it is common to the adrenal steroids, one may be led to suspect that it is a metabolic repercussion of stress.

The androgens favorably influence the assimilation of proteins and diminish the excretion of nitrogen. These actions in cases of negative nitrogen equilibrium due to excess loss of nitrogen may explain the favorable "nephrotropic" effect. It is difficult to advance a hypothesis to explain the influence of androgens on calcium metabolism, which becomes manifest also through a stimulation of the parathyroids, with production of an abnormally great rise of blood calcium. It is likewise difficult to explain their effect against carcinoma of the breast, especially if it is metastatic. It is a therapy that slows down the evolution of the tumor and metastasis, especially the metastases to the bones. According to Professor Migliavacca, it is probably an indirect action of the massive doses of androgens on the hypophysis, of which not only the gonadotropic secretion would be inhibited but also that of the somatotropic hormone, the so-called hormone of growth, which may perhaps be responsible for the growth of the tumor.

The mechanism of action of androgens on the nervous system and the psyche in cases of sexual frigidity, depressive psychosis, and other such states has not been clarified. Frigidity in women is mainly due to psychogenic factors; the androgens sensitize the diencephalic vegetative nervous system, one of the most sensitive peripheral receptors of the effect of androgens. As for the improvement of depressive psychic states and the reestablishment of balance in neurovegetative dystonias that often follow androgen therapy, they seem to be due to an indirect nonspecific action of the androgen, possibly through the hypophyseal-hypothalamic system. Analogous effects have been obtained with massive doses of desoxycorticosterone and other steroids. This hypothesis seems to be confirmed by a comparison between the effects that can be obtained with androgen therapy and those obtained with electroshock therapy in these states. The balancing action of the androgens on the vegetative nervous system and the tonic general and dynamogenic action can be explained partly by the anabolic, fattening effect of the androgens.

In recent years androgens have been combined with other sexual hormones for some conditions, and the latest achievements of biological chemistry have made available to clinicians other synthetic steroid substances with actions that are analogous to those of the androgens. The combination of androgens and estrogens, in proper weight ratio, is used especially to treat neurovegetative disturbances of the climacteric, because it has proved more valuable than treatment with estrogens alone. The quicker action of the combined therapy is ascribed to the fact that the two hormones inhibit synergistically the production of follicle-stimulating-hormone by the anterior lobe of the hypophysis. This combined therapy is also indicated after surgical or radiological castration to neutralize or modify the therapeutic activity of estrogens alone according to a method that was once widely used.

Professor Migliavacca believes that a definitive statement about the combination of sexual steroids in therapy is not yet possible, although clinical experience with the use of the various formulas worked out by the pharmacological industry is rapidly being accumulated. The introduction of hormonal steroids with action resembling that of androgens in gynecological therapy has made it possible to exploit therapeutically some useful pharmacodynamic activities of these preparations, even though they do not possess all the actions that are characteristic of testosterone.

Diagnosis of Hyperadrenocorticalism.—Professor Ceresa, Turin, read a paper on the test and spectrophotometric curves of Allen in the diagnosis of hyperadrenocorticalism before the medical and surgical society of Pisa on Feb. 21, 1953. He studied the spectrophotometric absorption curves of the urine of seven women. Cushing's syndrome was present in three of them, virilism in one, and hypertrichosis with increased androgenuria in three. In one patient with Cushing's syndrome in whom there was a tumor of the adrenal cortex, the spectrophotometric curve indicated maximal absorption, especially in the region of 600 mμ. In other words, it behaved in a way that, according to American authors, is typical of functioning adrenal tumors. Gardner and Migeon assert that curves with the aforementioned characteristics occur only when the tumor produces clinical virilism. In this instance the curve was quite typical, despite the fact that the tumor was accompanied by findings typical of Cushing's syndrome and although there was also a marked tendency to virilism.

In the other two patients with Cushing's syndrome, the curve did not present the point of absorption in the region of 600 mμ, which is characteristic of a tumor of the cortex. Radiological investigation with pneumoperitoneum in one case and surgical exploration in the other revealed that a tumor was not present. The curve behaved this way in two patients with hypertrichosis and increased androgenuria. Pneumonography of the adrenals revealed that the volume and form of the glands were normal. In the third patient with hypertrichosis and increased androgenuria, the spectrophotometric absorption curve revealed a slight point at 600 mμ. This disappeared after cortisone therapy. According to Gardner and Migeon, the presence of an adrenal tumor may be confirmed by this finding.

The curve in the patient with virilism was identical to that which Gardner and Migeon describe as typical of hyperplasia of the adrenal cortex not due to a tumor. It was characterized by a slight absorption point at 600 mμ, and this point was slightly smaller than that of normal absorption curves. Unlike American reports, the absorption at 600 mμ did not change after cortisone therapy.

At the same meeting Drs. Ceresa, Lacroix, and Randone reported that they studied roentgenographically after retropneumoperitoneum the adrenal glands of 16 patients with hyperadrenocorticalism and of 7 normal persons. Comparing the results obtained with the standard roentgenography and those obtained with body section roentgenography, they observed that some adrenals can be visualized with the body section technique that could not be with standard roentgenography. It is necessary, however, to know how to interpret the findings in order to avoid mistaking some small adipose masses or renal cysts for adrenal glands.

LONDON

General Practitioners' Records.—A recently published report on the records of general practitioners by Dr. W. P. D. Logan, chief medical statistician, General Register Office, is based on an analysis of the clinical records of eight practices during the period, April, 1951, through March, 1952. The importance of this report lies not so much in its findings but in the fact that it represents the first serious attempt to make use of the mass of clinical data that is to be found in the records of general practitioners but that, in the past, has been lost to posterity with their death or retirement. The primary objective of this survey was to determine to what extent the clinical records of general practitioners could be used as a source of general morbidity statistics and to study the problems associated with this use of these records.

The eight practices chosen were selected because of their location and character and not because of the special interest that the practitioners had evinced in keeping records. No uniform method of record keeping was imposed. Each practitioner was encouraged to choose his own system. The data from each practice were sent to the General Register Office, where they were sorted and analyzed. Only the records of National Health Service patients were used. The practices were representative of both rural and urban practice and ranged in size from 7,700 patients in Liverpool to 1,900 in Kent and Sussex. Altogether, 27,365 patients were included in the survey. Measles, which headed the infectious diseases in the number of consultations for which it was responsible, had a patient-consultation rate of 39.2 per 1,000 practice population. It was closely followed by respiratory tuberculosis, with a rate of 37. There was not a single consultation for poliomyelitis or infective encephalitis and only three (representing two patients) for diphtheria—all in one practice. Asthma had a rate of 52.3; diabetes, a rate of 3.4; and pernicious anemia, a rate of 0.4; whereas the rate for other anemias was 11.4; psychoneurotic disorder, 109.6; benign hypertension, 73; the common cold, 252.9; and bronchitis, 328.9. About one patient in every hundred had a consultation with his doctor for some nonmedical reason during the course of the year. Whether they were for general advice, such as the family doctor of the old days often gave, or for other reasons was not indicated. The seasonal variations were interesting. Although consultations for the common cold, influenza, pneumonia, otitis media, and bronchitis increased during the winter quarter, those for acute tonsillitis showed no seasonal variation. Consultations for the various forms of arthritis varied little, but there was a small increase during the winter months in the number of those for muscular rheumatism.

Three out of every five consultations were with female patients, but this was partly accounted for by the fact that there were more females than males in the practice population. There were some interesting sex differences in the incidence of different disorders. Thyrotoxicosis was diagnosed in 1 male and 25 females; myxedema, in 4 males and 51 females; migraine in 50 males and 123 females; benign hypertension in 82 males and 402 females; and, of the patients with symptomatic diagnoses, those labeled debility or headache were mainly females, 15 to 64 years old. Just over two-thirds of all the consultations were in the office, and the rest were home visits. The total consultation rates per 100 practice population for males aged 15 to 44 were lower than in those under 15 or over 44 years of age, but for females there was a steady increase in rates from childhood upwards. Except in childhood, the rates for females at each age were higher than those for males. The consultation rates showed marked differences in individual practices, ranging from an average of 2.9 to 4.7 consultations per patient per year. There was no evidence that consultations are generally more numerous in urban than in rural practices. In all practices combined, there were 3,090 outpatient referrals to hospital and 563 inpatient referrals, representing 3 per 100 and 0.5 per 100 total consultations, respectively.

It was concluded "that a small group of practitioners have been able, without exceptional difficulty and without being specially selected for the purpose, to keep records of all their work. . . . It has also been shown that these records have been suitable for statistical analysis, and that this analysis has made available a considerable amount of information about the nature of general practice and about the prevalence in the population of the kinds of illness that come to the notice of general practitioners. . . . Although the keeping of complete and continuous records has been a task making considerable demands upon the practitioners, it was found that once a satisfactory routine method had been adopted it could be carried on without much difficulty, even during periods of increased sickness prevalence." On the other hand, the warning is given "to practitioners who propose to embark upon a comprehensive analysis of their own records that the processes of statistical analysis may prove much more burdensome than the record-keeping itself." This definite opinion was expressed: "There can be little doubt that these records potentially constitute one of the most valuable sources of information on morbidity." In a commendatory foreword, Sir John Charles, chief medical officer of the Ministry of Health, expressed this view: "It may be that the College of General Practitioners, with its expressed interest in research, will be able to enlarge the sphere of operations and so help to add fresh chapters to these careful chronicles."

Causes of Blindness in England.—A report, entitled "The Causes of Blindness in England 1948-1950," by Prof. Arnold Sorsby, has just been published by the Ministry of Health. It is based on an analysis of over 19,000 blindness registration certificates, representing about 90% of the total newly registered blind in England during 1948, 1949, and 1950. Of the blind population registered in these years, 5.9% were totally blind, having no perception of light, and 17.1% had perception of light only. Practically 90% of the registered blind were over the age of 50 at the time of registration. Only 1.6% were in the age group from birth to 4 years old, but this low percentage does not necessarily prove a correspondingly low incidence of blindness, since many blind infants may not have been registered until later in life. A typical geriatric note is struck in the comment that 61.2% of the blind population were over 70, although this group included only 6.8% of the estimated general population in 1951.

Cataract, senile macular degeneration, and glaucoma accounted for practically 60% of all causes of blindness; myopia and the congenital and abiotrophic anomalies, for 16.5%; diabetes, for 4.3%; syphilis (acquired and congenital), for 1.2%; and ophthalmia neonatorum, diseases of the central nervous system, and trauma, for less than 1% of cases. In the age group from birth to 4 years old, 77.7% of all blindness was caused by congenital defects. In the group 5 to 14 years old, congenital anomalies accounted for 57.5% of all causes, but abiotrophic anomalies, myopia, diseases of the central nervous system, intracranial tumors, and optic atrophy of unknown origin contributed 5% each. In the group 15 to 29 years old, congenital anomalies accounted for 33.2%, the abiotrophic anomalies for 16.3%; myopia, for 6.9%; and trauma, iritis and congenital syphilis, optic atrophy of unknown origin, and intracranial tumors, for about 5% each. In the group 50 to 69 years old, cataract accounted for 20.3%; glaucoma, for 14.7%; myopia, for 15.7%; and diabetes, for 8.4%. In those over 70, cataract caused 41.1%; senile macular degeneration, 22.9%; glaucoma, 15.8%; and myopia, 10.2%.

In about 31.3% of all patients registered as blind from cataract the condition was regarded as remediable; in 31.9% it was regarded as remediable, except that operation was inadvisable because of poor general health; the prognosis was doubtful in 28.4%; and in 8.5% the condition was considered irremediable. Eighty per cent of those registered as blind from cataract had received no treatment. In the case of glaucoma, surgical treatment had failed in 57.8%; in 76% of cases treatment had been incomplete; and in 34.6% there had been no treatment. The report comments: "The . . . proportion of glaucoma patients who are blind in spite of operation . . . indicate that there is room for better organization of facilities for the early diagnosis of glaucoma. In these returns 31.9 per cent. of cataract patients are shown as amenable to treatment as far as the eye is concerned, but unfit for operation because of their poor general health. If these findings are taken on their face value, the problem of cataract becomes part of the larger issue of geriatrics, but it is possible that many patients recorded as unfit for operation by some examiners would in fact be urged to undergo treatment by others, as would perhaps some of the 28.4 per cent. returned as with prognosis 'doubtful.' These considerations emphasize that a decision as to a patient's suitability to undergo a cataract operation calls for the judgment of an operating surgeon. Were those blind from cataract a relatively small proportion of the total number of those registered annually as blind the problem might not appear significant. But cataract contributes each year, about 2,500 to 3,000 blind, some 80 per cent. of whom have not had any treatment.

"In glaucoma, time lost spells irretrievable loss of sight. . . . Some 1,200 to 1,500 individuals blind from glaucoma are registered annually, and hundreds . . . suffer from serious visual disability caused by the affection. If any reduction in these numbers is to be achieved more effective means for early diagnosis will have to be established. Though there are still many difficulties, early diagnosis is a not impossible objective today. It may fairly be asked whether the present organization of eye hospitals is adequate to cope with the time-consuming special methods that are called for. The establishment of special glaucoma clinics at some centers is a recognition by some hospital authorities of the special difficulties involved. That many such centers are needed, and that special facilities should be granted to them, would seem obvious."

In reviewing the figures for England and Wales as a whole, it is pointed out that in March, 1948, the number of registered blind was 77,390, compared with 71,875 in March, 1938. The annual increase rose from 7,586 in 1948 to 11,155 in 1951. This was attributed to the natural increase in the population, and the mode of registration as a result of a greater readiness on the part of examining surgeons to certify the patients with borderline cases as blind. There appears to have been an actual increase in the number of blind children. In the case of children 5 to 14 years old, the marked decline observed between 1923 and 1942 is no longer continuing. The rate per 100,000 was 21.6 in 1948 and 21.2 in 1951. The number of new registrations in the age group 1 to 4 years old, has risen from 45 per year in 1937 to 136 in 1951. More effective registration may account for part of this increase. In the case of infants under one year of age registrations have risen from 11 in 1937 to 44 in 1951. "As the number of infants in the general population is declining, the increase in the number of registrations suggests either markedly more efficient registration, or an actual increase in the number of blind infants—as is likely from the emergence in recent years or retrolental fibroplasia as a new blinding affection in infants." The proportion of blind persons over 70 years old has risen steadily from 22.4% in 1923 to 47.4% in 1951.

Medical Defense Union.—At the annual meeting of the Medical Defense Union on Sept. 15, Dr. S. Cochrane Shanks, the president, referred to the rising tide of litigation. Perhaps the most potent cause for this is that the hospitals are now state institutions and so are fair game. In the past, a patient might hesitate to sue a voluntary hospital or a physician who gave his services free. Today it is the Treasury that pays, and the physician, too, now that he is salaried. Another powerful encouragement to the discontented patient is the Legal Aid and Advice Act of 1949, under which litigants may receive free legal assistance in their actions against hospitals and doctors. As Dr. Shanks so aptly puts it: "In this welfare social estate of ours a patient may be provided with free medical treatment by the State, and may subsequently, at the State's expense, sue the State for negligence. He will, if successful in his action, receive compensation from the State. He will, even if unsuccessful, have his legal expenses paid by the State and, being a poor person under the Act, will not be called upon to pay the legal expenses incurred by the State in rebutting his unsuccessful and sometimes frivolous suit. Was even Dr. Faustus submitted to greater temptation?"

Two other factors add impetus to this flood. The first is the example of the compensation paid to injured persons under the Road Traffic Act. In road traffic accidents it is up to the defendant to prove that he was not negligent, and there is in the minds of the public—and sometimes even in that of the courts—an unfortunate carry-over into medicolegal cases. "I have not been cured; I must therefore receive compensation" is becoming almost a slogan. Finally there is the attitude of the less intelligent public press. Negligence, real or alleged, on the part of the physician is news, perhaps headline news. By the time the negligence has been disproved to the court's satisfaction the story is dead and other sensations have taken its place, but the impression left with the litigious patient is obvious.

The Medical Defense Union's council, through its representatives, has continued joint negotiations with the Ministry with the object of defending unwarranted actions together and of settling just claims by a defendant in amicable agreement. Dr. Shanks believes that agreement may soon be reached between the three defense societies, the British Medical Association, and the Ministry.

NORWAY

Nephropathia Epidemica.—Recent Scandinavian publications concerned with nephropathia epidemica suggest that this may be a disease that is by no means rare. The credit for the identification of this condition as a disease sui generis is largely due to Scandinavian workers. In the autumn of 1933, Zetterholm observed seven cases in a Swedish hospital. In the same year and independently of Zetterholm, Myhrman gave an account of seven similar cases, and in 1945 he suggested the application of the term nephropathia epidemica to this disease. He has subsequently collected nine other cases also observed in Sweden. Meanwhile similar cases were beginning to be diagnosed in Norway. In 1949, Knutrud reported three cases. In 1950, Muri reported 14 cases observed in the Opland County Hospital at Lillehammer in the period September-November, 1949. He reported another case, the details of which are published in the *Journal of the Oslo City Hospitals,* September, 1953.

The two most characteristic features of this disease are its epidemic character and changes found in the urine. The clinical findings are remarkably uniform, judging by the cases hitherto recorded. After prodromal symptoms with general malaise lasting a few days, the patient becomes ill with shivering, fever, violent headache, and pain in the trunk and limbs. This pain tends to bring the patient to the hospital with a diagnosis of "acute abdomen," Weil's disease, influenza, pleurisy, or pneumonia. In Muri's cases, the specific gravity of the urine was high during the first few days, but from about the fifth day hyposthenuria or isosthenuria developed. Proteinuria disappeared about the 10th day, but the ability of the kidneys to concentrate urine was impaired for several weeks. Blood urea was temporarily increased in most cases. In the absence of edema and a high blood pressure, the clinical findings can be distinguished from those of acute nephritis. After Muri gave an account of epidemic nephropathy at a meeting of a local medical society, five new cases were correctly diagnosed before admission to the hospital. This shows how helpful it is for a given disease to be in the mind of the physician confronted by a new and acute condition.

Dextran.—On Sept. 29 a series of lectures on dextran was given in Oslo by Professor Stacey of Birmingham University in England, Dr. Jon Jonsen, and Dr. Ivar Lund. In Dr. Lund's investigations, 29 healthy fasting subjects were given infusions of 1,000 ml. of eight different preparations of dextran. The rectal temperature and pulse rate were recorded every half hour. None of the volunteers had ever presented manifestations of any allergic disease, but 15 of them reacted to the infusions in various ways, such as flushing of the face and neck and, in the severer cases, extensive urticaria lasting for some hours. Headache and malaise, slight fever, nausea, and vomiting occurred frequently, and two of the volunteers fainted on rising. A certain relationship was noted between the degree of the reactions and the length of the interval between these experiments and the last immunization against typhoid and paratyphoid A and B. Some of the preparations caused allergic reactions in all the typhoid A and B immunized volunteers. Dr. Lund has published some of his findings in the *Journal of the Oslo City Hospitals* (no. 1, 7, and 8, 1953), and he has concluded that, among the various plasma expanders, dextran is the most promising, in spite of the reactions caused by it. The ideal plasma expander is yet to be produced.

Capillary Microscopy of Skin Diseases.—At the dermatological department of the Rikshospital in Oslo, Dr. Oscar Gilje recently carried out capillary microscopy of various skin diseases in the hope of finding an aid to their differential diagnosis. In patients with eczema, he found that the capillary picture varied greatly with the clinical findings. In lupus erythematosus, the most striking feature of the capillaries was a round or oval formation representing the follicular hyperkeratosis and the short, thick, usually horizontal, loops or arcs of vessels. Ichthyosis presented an entirely different picture, with slender, long, narrow capillaries and with no particular differentiation of the arterial and venous branches. In some of the thin capillary loops, it was possible to follow the blood stream that presented the appearance of beads on a string. In dermatomyositis also, the capillary picture seemed to be characteristic. Dr. Gilje believes that capillary microscopic examinations of the skin can reveal features pathognomonic of some skin diseases. He suggests that this test may throw light not only on the diagnosis but also on the pathogenesis of certain skin diseases. Several of the pictures he took are reproduced in *Acta dermato-venereologica* (33:303, 1953).

Death of Dr. Trygve Braaty.—The unexpected death of the psychiatrist, Trygve Braaty, at the age of 49, has robbed Norway of a singularly forceful personality. Dr. Braaty qualified as a doctor in 1929, and after some experience in general practice he held various appointments in general as well as in psychiatric hospitals. In 1936, his thesis for the degree of doctor of medicine was entitled "Men Between the Ages of 15 and 25." His love of challenging orthodoxy came out in full in this thesis and aroused some opposition. In 1945, he was put in charge of the psychiatric department of Ullevaal Hospital, but he retired from it at the end of 1952 in order to emphasize his disapproval of the mechanization of hospital practice. With his gifts as a speaker and writer, he was successfully eloquent in defending the rights of the patient who becomes a mere case in the complicated machinery of a modern hospital. His latest work, "The Patient and the Doctor," became a best seller in Norway by virtue of its revolutionary spirit.

TURKEY

Neuroblastoma of the Adrenal Medulla.—Dr. Kenan Aker, chief pediatrician of Istanbul-Shishli Children's Hospital reported in *Anadolu Klinigi* a case of neuroblastoma of the adrenal medulla. The patient, a 5-year-old boy, had had intermittent fever for three months. He often vomited, had pain in the back and legs and no appetite, and was weak and anemic. He had hard nodules under the chin and slight exophthalmus of the left eye. His abdomen was distended, and on the left side of his thorax a small mass was felt. His blood cell count revealed 3,640,000 red blood cells, 13,200 leukocytes, and 54% hemoglobin. He complained of pain in the joints and abdomen. There was an exostosis at his right fontanel and in the region of his left temporal bone and a softer exostosis, the size of a walnut, attached to this bone. Along his sternocleidomastoid many small lymph nodes were palpable; his abdomen was distended; and his liver was palpable 2 cm. below the costal margin and was firm. The exostosis gradually became more prominent, and another developed in the frontal region. Biopsy verified the diagnosis of neuroblastoma. Radiographic examination of his skull revealed widened diploë in front and back and seven exostoses of varying density. His liver had become palpable 7 cm. below the costal margin. His eyes protruded, and the pupils of both eyes were fixed. His pain increased, and his teeth fell out. At the end of three months his erythrocyte count was 1,290,000; his leukocyte count was 4,500; and his hemoglobin level was 40%. Symptomatic treatment and radiotherapy gave no relief, and the patient died after four months in the hospital and nine months after the onset. An autopsy verified the clinical diagnosis. The left adrenal gland was larger than a walnut, and section revealed a grey hard malignant tumor that had displaced the kidney downward. Around the para-aortal, abdominal, peripancreatic, mesenteric, perigastric, hepatic, and iliac arteries the lymph nodules were the size of lentils and walnuts. The liver and spleen were enlarged.

Thiosemicarbazone in Tuberculosis Therapy.—Thiosemicarbazone (Conteben), first used in 1947 in German clinics as an adjuvant in tuberculosis therapy has been used in Turkey since 1950. In *Dirim* Dr. Yakup Çelebi, medical director of Istanbul-Haydar Pasha Tuberculosis Hospital, reported on results obtained with this drug. Of 27 patients, 12 were given only thiosemicarbazone. In 7 of these there was clinical and radiological improvement; in 3 there was no improvement; in one there was marked improvement; and in one there was no change. Of the other 15 patients who were given thiosemicarbazone, streptomycin, and *p*-aminosalicylic acid, 12 showed clinical and radiological improvement; 2 showed slight improvement; and one was made worse. The ages of the patients ranged from 15 to 41 years. All had exudative tuberculosis in both lungs; several had cavities; a few had laryngeal tuberculosis; and all patients had positive tuberculin reactions. The initial dose of thiosemicarbazone was 0.05 gm., and this was gradually increased to 0.15 gm. A few patients had nausea, vomiting, and vertigo, and their therapy was interrupted for a few days. Side-effects necessitating the complete discontinuance of the treatment did not occur.

Thiosemicarbazone has proved effective in tuberculosis associated with empyema. As an adjuvant and following a pleural irrigation performed once or twice a week, thiosemicarbazone in the form of a suspension in 2.5 cc. of sterile glycerin or saline solution or in the form of a powder proved beneficial. In the patients who recovered, cavities and other lesions had healed; tubercle bacilli in the sputum had disappeared; the cough had decreased and was less productive; the appetite had improved; and there was a gain in weight.

Phytobezoar.—Dr. Tarik Temel, radiologist at Istanbul Cerrah Pasha Municipal Hospital, reported in *Klinik* an exceptional case of phytobezoar. Since 1914, when the late Prof. Hamdi Suad Aknar reported three cases of phytobezoar, 175 cases have been reported by Professors Kazim Ismail Gürkan, Perihan Çambel, Halid Ziya Konuralp, Dr. Hazim Bumin, Dr. Avni Aksel, and E. Çavushoglu. The phytobezoars were encountered in mountain shepherds, soldiers, or persons isolated because of war conditions or during a famine when they ate plants, wild fruit, and roots. Two months prior to admission while working in the forest, a 17-year-old farm boy had eaten many Trabzon dates (Diospyrus lotus), a wild fruit that grows profusely in the Black Sea forests. During those two months he had epigastric pain that had no relation to taking food. He was relieved by vomiting or when he took a sedative. The pain suddenly became violent, he vomited excessively, his temperature rose, and he was taken to the hospital. On admission he was weak and anemic; he had a temperature of 101 F and a pulse rate of 120. There was tenderness and rigidity of the epigastrium but no abdominal distention. The blood cell count revealed 1,600,000 red blood cells, 8,000 leukocytes, and 45% hemoglobin. The differential count was normal and the sedimentation rate was 63 mm. The patient was given cardiotherapy and antibiotics. After 10 days his temperature returned to normal, his epigastrium and hypochondrium became soft, and a large mobile soft abdominal mass was palpated. Radiographic examination revealed the stomach to be distended, and in the center was a large, irregular, sponge-like mass. After the patient had several blood transfusions, Prof. Dervish Manizade performed gastrotomy and removed the phytobezoar. It consisted of a brown vegetable mass of foul odor that contained many date seeds. It weighed 1,175 gm. and was 15 cm. long and 6 cm. wide. The patient's recovery was uneventful.

CORRESPONDENCE

SALT-POOR DIET AND JEWISH DIETARY LAWS

To the Editor:—A salt-poor diet prescribed in cases of hypertension or congestive heart failure causes difficulties when prescribed to a person strictly adherent to Jewish dietary laws. These laws demand, for the purpose of removing any traces of blood from the surface of the meat, that it be abundantly salted before use. To eat meat without this preparation creates a religious problem and a conflict for the observing Jewish patient. Such meat has indeed a much higher sodium content than similar unprocessed material. Some Jewish hospitals tried to avoid the problem by using ammonium chloride instead of salt. According to Jewish law, this or the substitution of sugar for salt is not permissible.

For a long time, I have used the following method to solve the difficulty. The patient was told that, after salting the meat in the religiously prescribed way, he should put it in water for one and a half or two hours and change the water two to three times during this time. It is also my procedure to allow patients on a salt-poor diet to eat only boiled (not fried or broiled) meat and not the soup. It has never been proved that boiled meat loses any of its essential nutrients or has a lower food value than broiled or fried meat. In an effort to determine the sodium content of salted and unsalted meat prepared in various ways, investigations were performed in the Food Research Laboratories, Inc., in Long Island City. Samples of the different materials were ashed by digestion with perchloric acid and hydrogen peroxide, the meat samples having been prepared before by grinding in a food chopper. Sodium determinations were made by means of the Beckman flame photometer. To find out whether there are typical differences in the sodium content of different types of meat, one part of each sample remained unsalted, "the untreated piece." It was compared with a part from the same sample salted according to the usual Jewish dietary laws, "the treated piece." The difference in sodium content was:

Cut	Moisture, %		Na, Mg./100 Gm.	
	Untreated	Treated	Untreated	Treated
Brisket end	61.6	61.0	69.0	284
Single chuck	64.1	64.1	42.4	222
Breast flank	56.2	55.8	52.6	195
Average	60.8	60.3	54.7	234

After these preliminary investigations the intended experiments could be started. On four pieces of raw beef, each weighing approximately 500 gm., the salting process was carried out equally in each piece in the following way. After soaking for one-half hour in sufficient cold water to cover them, the pieces of beef were placed on a tilted platform and were sprinkled by hand with coarse salt. In order to equal the usual kitchen procedure, the amounts of salt were not measured, and, therefore, not exactly the same amount was used for each piece. After standing for one hour after the salt was added, the pieces were rinsed under running tap water and drained. A small slice was then cut from each piece, and the four slices thus obtained were composited for analysis without further treatment. These pieces were sample 0 shown in the second table. One piece of beef was then covered with cold water, brought to a boil, and simmered until tender (about one and one-half hours). The broth in which this piece was cooked was discarded and the meat saved for analysis as sample 1. A second piece of beef was covered with cold water and allowed to soak for one-half hour. The water was then poured off and replaced with fresh water in which the meat was cooked as described for sample 1. About 700 to 1,000 ml. of broth remained after cooking in this case and also in samples 3 and 4 described. Both the meat and the broth were saved for analysis and identified as sample 2. The third piece of beef was soaked for one-half hour in three consecutive changes of cold water in quantities sufficient to cover the meat. The meat was then immersed in fresh cold water and cooked as above. The meat and broth were identified as sample 3. The fourth piece of beef was soaked for one-half hour in three consecutive changes of hot tap water (165 F). The meat was then cooked as described above. The meat and broth were identified as sample 4. Equal samples of the cooked meat were prepared after grinding. Aliquots of meat and broth were ashed with perchloric acid and hydrogen peroxide, and sodium determinations were made on the residue. The results obtained are shown in the second table.

Sample	Treatment	Na Found	
		Meat, Mg./100 Gm.	Broth, Mg./100 Ml.
0	Salted, unsoaked	390	...
1	0, cooked	75	...
2	0, single cold soak, cooked	63	122
3	0, triple cold soak, cooked	76	89
4	0, triple warm soak, cooked	58	22

One other experiment was performed. Since, in the average kitchen, the amount of salt put on the pieces of meat is taken haphazardly, a greater amount of salt was used for the treating process. A single piece of raw beef weighing about 5 lb. (2.3 kg.) was divided into three equal portions. An adequate part of each portion was removed and composited to form a control sample. One portion was boiled without addition of salt, and meat as well as broth was analyzed for the sodium content. The two remaining portions were salted, and a small slice of each was taken for study before cooking. One piece was boiled in water, and meat and broth were analyzed. The third piece was cut in two and broiled. The next table shows the results of this procedure.

Sample Analyzed	Na Found, Mg./100 Gm.
Raw, unsalted	64.9
Unsalted, boiled	34.6
Broth from unsalted, boiled meat	23.6
Raw, salted (treated)	705.0
Treated, boiled	334.0
Broth from treated, boiled meat	372.0
Treated, broiled	375.0

The data obtained prove first that the processing of raw meat according to Jewish dietary law increases the sodium content remarkably. From the second table it can be seen that, if salting is not excessive, cooking takes out practically all of the added sodium. The sodium content of the differently prepared specimens in the same table is very close to that found in meat not salted before cooking. This proves that the moderate amount of salt added goes into the soup in the cooking. It is justifiable, in a salt-poor diet, not to permit the patient to eat the soup if the meat was processed before in the ritual way and not to allow him to eat fried or broiled meat of this kind. It is clear, on the other hand, from the figures in the second table that soaking the salted meat in cold or warm water before cooking removes the salt sprinkled on the surface quite well, especially if that soaking is in warm water and the amount of salt is not excessive.

In the second experiment, the sodium content of the meat was much higher than in the first. This was probably due to the high amount of salt used. It can also be seen that when the salted meat was not soaked twice for half an hour its salt content remained high and boiling removed only a little more than half the salt content. It is interesting to note that broiling reduced the sodium content to a high degree, but not so much as boiling does. Apparently, a considerable amount of the salt put on the surface of the piece is carried away by the dripping fluid during broiling. It seems that if treated meat is to be used in a salt-poor diet, the cook should use a minimum of salt, allow the meat to stand only for the religiously permissible minimum of time, cook the meat in a generous amount of fluid and throw the broth away.

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COUNCIL ON MEDICAL SERVICE

This is the seventh in the series of articles on Physicians Placement written by medical students from Northwestern University Medical School after visiting the states for the purpose of studying the program on the state level.

PLACEMENT OF PHYSICIANS IN TEXAS

STATE CONDITIONS IN GENERAL

In most areas the state of Texas is adequately supplied with physicians. Within its boundaries there is one physician for every 813 persons. This physician population ratio compares favorably with the national average of one physician to every 730 persons. But, because Texas has so many square miles of sparsely populated land, the larger proportion of the physicians are located in towns ranging from 1,000 to 25,000. Even in view of this, the acknowledged need for more physicians is in towns with populations less than 25,000. Geographically, the maldistribution of physicians can be pointed up by considering roughly the eastern and western portions of the state. The eastern half is well populated and has more than an adequate number of physicians in relation to population. The western half, including the Panhandle, is, in general, sparsely populated range land with fewer physicians in relation to population. Of the 254 counties in Texas, a survey in 1951 showed that 10 had no physician. All of the 10 counties were in the western part of the state. Of these 10, only one area indicated a population concentration sufficient to support a physician.

The attitude of the people toward travel affects the demand for medical care. In the western areas, persons will travel as much as 30 or even 50 miles without complaint to reach a physician. In the eastern areas with the greater concentration of people, patients prefer to have medical service located, so to speak, at their fingertips. There are, in Texas, a large number of privately owned hospitals. The staff of such a hospital is frequently closed, because the present staff owns the hospital. This situation sometimes discourages additional physicians from entering such areas, but the Hill-Burton program now offers some relief. Another factor complicating medical practice in some areas is the number of "cultists." They tend to gravitate toward the sparsely populated areas that have a low physician-population ratio. This is particularly true in the Panhandle and West Texas areas.

HISTORY OF PHYSICIANS PLACEMENT

The Relocation Service, as it was known in the beginning, grew out of the wartime Procurement and Assignment Service and has been carried on as a placement service for physicians by the staff of the central office of the Texas Medical Association under the direction of the office of the elected secretary. Between 1946 and 1948, the central office rendered a very informal type of service to physicians who wrote to or visited the central office. A simple card index file of communities needing a physician was maintained, and the names of places suitable for establishing a practice were supplied in reply to the inquiring physicians. Most of the inquiries were from returning medical officers. In 1949 this informal service was placed under the supervision of the state Council on Medical Economics. At that time a staff member of the central office was delegated the full responsibility of operating a "clearing house" type of informational service to the communities indicating need of a physician and to the physicians seeking locations. Originated primarily to help physicians, the program of this placement service has been broadened to provide extensive assistance for all communities seeking adequate medical care.

STRUCTURE OF THE PLACEMENT SERVICE

The Physicians Placement Service is conducted in the central office of the Texas Medical Association as a function of the state Council on Medical Economics. The director of the service is Mrs. Wacille Johnson, who has been a member of the staff of the central office for three years. There is at present no field representative working for the Physicians Placement Service with the delegated responsibility of investigating and evaluating requests from communities for aid in obtaining a physician. Since this function would be a valuable adjunct to the services now offered to the inquiring physician, employment of a field representative is under consideration.

METHOD OF OPERATION

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After the need has been confirmed, the placement service sends a letter containing a list of physicians desiring locations in Texas and a questionnaire to the "contact man" in this community. In its letter the placement service suggests that it will furnish on request any further information about any of the listed physicians, such as age, training, military status, or other data that are maintained on file. The questionnaire is designed to gain information concerning the medical care

CORRESPONDENCE

SALT-POOR DIET AND JEWISH DIETARY LAWS

To the Editor:—A salt-poor diet prescribed in cases of hypertension or congestive heart failure causes difficulties when prescribed to a person strictly adherent to Jewish dietary laws. These laws demand, for the purpose of removing any traces of blood from the surface of the meat, that it be abundantly salted before use. To eat meat without this preparation creates a religious problem and a conflict for the observing Jewish patient. Such meat has indeed a much higher sodium content than similar unprocessed material. Some Jewish hospitals tried to avoid the problem by using ammonium chloride instead of salt. According to Jewish law, this or the substitution of sugar for salt is not permissible.

For a long time, I have used the following method to solve the difficulty. The patient was told that, after salting the meat in the religiously prescribed way, he should put it in water for one and a half or two hours and change the water two to three times during this time. It is also my procedure to allow patients on a salt-poor diet to eat only boiled (not fried or broiled) meat and not the soup. It has never been proved that boiled meat loses any of its essential nutrients or has a lower food value than broiled or fried meat. In an effort to determine the sodium content of salted and unsalted meat prepared in various ways, investigations were performed in the Food Research Laboratories, Inc., in Long Island City. Samples of the different materials were ashed by digestion with perchloric acid and hydrogen peroxide, the meat samples having been prepared before by grinding in a food chopper. Sodium determinations were made by means of the Beckman flame photometer. To find out whether there are typical differences in the sodium content of different types of meat, one part of each sample remained unsalted, "the untreated piece." It was compared with a part from the same sample salted according to the usual Jewish dietary laws, "the treated piece." The difference in sodium content was:

	Moisture, %		Na, Mg./100 Gm.	
Cut	Untreated	Treated	Untreated	Treated
Brisket end	61.6	61.0	69.0	284
Single chuck	64.1	64.1	42.4	222
Breast flank	56.2	55.8	52.6	195
Average	60.8	60.3	54.7	234

After these preliminary investigations the intended experiments could be started. On four pieces of raw beef, each weighing approximately 500 gm., the salting process was carried out equally in each piece in the following way. After soaking for one-half hour in sufficient cold water to cover them, the pieces of beef were placed on a tilted platform and were sprinkled by hand with coarse salt. In order to equal the usual kitchen procedure, the amounts of salt were not measured, and, therefore, not exactly the same amount was used for each piece. After standing for one hour after the salt was added, the pieces were rinsed under running tap water and drained. A small slice was then cut from each piece, and the four slices thus obtained were composited for analysis without further treatment. These pieces were sample 0 shown in the second table. One piece of beef was then covered with cold water, brought to a boil, and simmered until tender (about one and one-half hours). The broth in which this piece was cooked was discarded and the meat saved for analysis as sample 1. A second piece of beef was covered with cold water and allowed to soak for one-half hour. The water was then poured off and replaced with fresh water in which the meat was cooked as described for sample 1. About 700 to 1,000 ml. of broth remained after cooking in this case and also in samples 3 and 4 described. Both the meat and the broth were saved for analysis and identified as sample 2. The third piece of beef was soaked for one-half hour in three consecutive changes of cold water in quantities sufficient to cover the meat. The meat was then immersed in fresh cold water and cooked as above. The meat and broth were identified as sample 3. The fourth piece of beef was soaked for one-half hour in three consecutive changes of hot tap water (165 F). The meat was then cooked as described above. The meat and broth were identified as sample 4. Equal samples of the cooked meat were prepared after grinding. Aliquots of meat and broth were ashed with perchloric acid and hydrogen peroxide, and sodium determinations were made on the residue. The results obtained are shown in the second table.

		Na Found	
Sample	Treatment	Meat, Mg./100 Gm.	Broth, Mg./100 Ml.
0	Salted, unsoaked	390	...
1	0, cooked	75	...
2	0, *single cold soak, cooked*	63	122
3	0, triple cold soak, cooked	76	89
4	0, triple warm soak, cooked	58	22

One other experiment was performed. Since, in the average kitchen, the amount of salt put on the pieces of meat is taken haphazardly, a greater amount of salt was used for the treating process. A single piece of raw beef weighing about 5 lb. (2.3 kg.) was divided into three equal portions. An adequate part of each portion was removed and composited to form a control sample. One portion was boiled without addition of salt, and meat as well as broth was analyzed for the sodium content. The two remaining portions were salted, and a small slice of each was taken for study before cooking. One piece was boiled in water, and meat and broth were analyzed. The third piece was cut in two and broiled. The next table shows the results of this procedure.

Sample Analyzed	Na Found, Mg./100 Gm.
Raw, unsalted	64.9
Unsalted, boiled	34.6
Broth from unsalted, boiled meat	23.6
Raw, salted (treated)	705.0
Treated, boiled	334.0
Broth from treated, boiled meat	372.0
Treated, broiled	375.0

The data obtained prove first that the processing of raw meat according to Jewish dietary law increases the sodium content remarkably. From the second table it can be seen that, if salting is not excessive, cooking takes out practically all of the added sodium. The sodium content of the differently prepared specimens in the same table is very close to that found in meat not salted before cooking. This proves that the moderate amount of salt added goes into the soup in the cooking. It is justifiable, in a salt-poor diet, not to permit the patient to eat the soup if the meat was processed before in the ritual way and not to allow him to eat fried or broiled meat of this kind. It is clear, on the other hand, from the figures in the second table that soaking the salted meat in cold or warm water before cooking removes the salt sprinkled on the surface quite well, especially if that soaking is in warm water and the amount of salt is not excessive.

In the second experiment, the sodium content of the meat was much higher than in the first. This was probably due to the high amount of salt used. It can also be seen that when the salted meat was not soaked twice for half an hour its salt content remained high and boiling removed only a little more than half the salt content. It is interesting to note that broiling reduced the sodium content to a high degree, but not so much as boiling does. Apparently, a considerable amount of the salt put on the surface of the piece is carried away by the dripping fluid during broiling. It seems that if treated meat is to be used in a salt-poor diet, the cook should use a minimum of salt, allow the meat to stand only for the religiously permissible minimum of time, cook the meat in a generous amount of fluid and throw the broth away.

Bruno Kisch, M.D.
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COUNCIL ON MEDICAL SERVICE

This is the seventh in the series of articles on Physicians Placement written by medical students from Northwestern University Medical School after visiting the states for the purpose of studying the program on the state level.

PLACEMENT OF PHYSICIANS IN TEXAS

STATE CONDITIONS IN GENERAL

In most areas the state of Texas is adequately supplied with physicians. Within its boundaries there is one physician for every 813 persons. This physician population ratio compares favorably with the national average of one physician to every 730 persons. But, because Texas has so many square miles of sparsely populated land, the larger proportion of the physicians are located in towns ranging from 1,000 to 25,000. Even in view of this, the acknowledged need for more physicians is in towns with populations less than 25,000. Geographically, the maldistribution of physicians can be pointed up by considering roughly the eastern and western portions of the state. The eastern half is well populated and has more than an adequate number of physicians in relation to population. The western half, including the Panhandle, is, in general, sparsely populated range land with fewer physicians in relation to population. Of the 254 counties in Texas, a survey in 1951 showed that 10 had no physician. All of the 10 counties were in the western part of the state. Of these 10, only one area indicated a population concentration sufficient to support a physician.

The attitude of the people toward travel affects the demand for medical care. In the western areas, persons will travel as much as 30 or even 50 miles without complaint to reach a physician. In the eastern areas with the greater concentration of people, patients prefer to have medical service located, so to speak, at their fingertips. There are, in Texas, a large number of privately owned hospitals. The staff of such a hospital is frequently closed, because the present staff owns the hospital. This situation sometimes discourages additional physicians from entering such areas, but the Hill-Burton program now offers some relief. Another factor complicating medical practice in some areas is the number of "cultists." They tend to gravitate toward the sparsely populated areas that have a low physician-population ratio. This is particularly true in the Panhandle and West Texas areas.

HISTORY OF PHYSICIANS PLACEMENT

The Relocation Service, as it was known in the beginning, grew out of the wartime Procurement and Assignment Service and has been carried on as a placement service for physicians by the staff of the central office of the Texas Medical Association under the direction of the office of the elected secretary. Between 1946 and 1948, the central office rendered a very informal type of service to physicians who wrote to or visited the central office. A simple card index file of communities needing a physician was maintained, and the names of places suitable for establishing a practice were supplied in reply to the inquiring physicians. Most of the inquiries were from returning medical officers. In 1949 this informal service was placed under the supervision of the state Council on Medical Economics. At that time a staff member of the central office was delegated the full responsibility of operating a "clearing house" type of informational service to the communities indicating need of a physician and to the physicians seeking locations. Originated primarily to help physicians, the program of this placement service has been broadened to provide extensive assistance for all communities seeking adequate medical care.

STRUCTURE OF THE PLACEMENT SERVICE

The Physicians Placement Service is conducted in the central office of the Texas Medical Association as a function of the state Council on Medical Economics. The director of the service is Mrs. Wacille Johnson, who has been a member of the staff of the central office for three years. There is at present no field representative working for the Physicians Placement Service with the delegated responsibility of investigating and evaluating requests from communities for aid in obtaining a physician. Since this function would be a valuable adjunct to the services now offered to the inquiring physician, employment of a field representative is under consideration.

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Recently the style of this booklet was changed because the listing became too large, containing nearly 100 openings for general practitioners and specialists. Listings require cutting new stencils every three months in order to keep up-to-date and maintain alphabetization by county. A single change required a complete recutting of the entire listing and, therefore, much time and duplication of effort. To reduce the work involved in keeping the listing current, the information on each opening is cut on a separate stencil, and many copies are mimeographed at one time. Booklets are easily assembled and easily revised, since a single change now requires the recutting of but one stencil. Booklets listing openings in general practice and openings in various specialties are prepared separately. Physicians have received the booklet favorably because each location has been discussed in sufficient detail to be useful in helping to decide which locations should be investigated further. The items of information on each opening include the name of the community and county in which it is located, general section of the state, population of the community and surrounding trade area, number of physicians in practice or distance the residents must travel to each nearest physician, the distance to hospital facilities, the possibility of staff membership for a new practitioner in the area, and names of the nearest large towns. Also listed are any special inducements that the town is prepared to offer, such as housing, office space, and office equipment. Other items listed are major sources of income in the community, number of churches and their denominations, school facilities, facilities for recreation, and the name and address of the person to contact. Every three months when the booklet is revised, copies are sent to the administrators of hospitals in Texas having approved intern-resident training programs, to the deans of all Texas medical schools, and to other interested organizations outside of the state, so that they may be posted and made available to medical students, interns, and interested persons. A mimeographed letter accompanies these booklets inviting requests for additional copies and stating that the services of the placement service are available on request.

Policy Toward a Community That Does Not Qualify for Listing.—Infrequently, county society investigations of a community requesting aid reveal that the need is questionable. There may be many reasons; it may be a seasonal resort area with a large fluctuation in population that would make it impossible for a physician to earn a living during the off-season time of the year. The population concentration may be too small to support a physician, or the area may have such a low income per capita that it may not be able to support a physician. Sometimes the request is from an area adequately provided with medical care in adjacent areas, so that there is no real need for another physician there. These and various other reasons may make the location unsuitable for listing as an opening for a medical practice. In each case, Mrs. Johnson writes a letter to the community stating that the Physicians Placement Service office is sympathetic with the situation there, but, because the need for a physician was not confirmed by the local county medical society (the stated reasons are included), her office cannot list the community in the regular publications.

Statistics.—A final review of the number of physicians and communities aided by the placement service provides some idea as to the extent and effectiveness of the service rendered the people and physicians in the state by this activity of the Texas Medical Association. Between January, 1952, and January, 1953, the Physicians Placement Service handled requests from 399 physicians seeking locations in Texas. One hundred of this number located in Texas, and 136 we dropped from the list for various reasons. Some physicia had resumed medical training, some had entered milit service, and others had located in other states. There we at the end of the year, 163 physicians who were still interest in locations in Texas on the mailing list. During the sa one year period, the placement service had requests for from 180 communities in the state seeking a physician. Six five of these locations were filled, and 26 were removed fr the list for various reasons. As of August, 1953, the Physici Placement Service had a mailing list composed of 96 co munities seeking physicians and of 122 physicians seeki locations in Texas.

DOCTOR DISTRIBUTION PROGRAM

Although satisfied that the placement service is renderi a service to the fullest extent of its ability and responsibili the Texas Medical Association believed that a more dir effort to overcome the maldistribution of physicians in Te should be investigated and undertaken. Accordingly, the pub relations committee in conjunction with the rural health co mittee proposed to the board of trustees of the associati that a "special committee on doctor distribution" be form to conduct a series of surveys covering the major aspects the distribution and availability of medical care and person in the state. Subsequently, this proposal was brought bef the house of délegates, which voted funds for the operati of this special committee.

Four Point Program.—The program of the Special Comm tee on Doctor Distribution was divided into four phases. T first two phases consisted of conducting surveys to determi facts about the Texas physicians and to learn what the la want. The last two phases consisted of direct contact w communities in order to investigate any need indicated the surveys and to aid communities to develop programs secure physicians. The entire program is designed to supp ment the efforts of the Physicians Placement Service. It w in no manner compete with the present placement service supplant the need for an active placement service. It is hop by the Texas Medical Association that this program will bri about public understanding of its efforts to secure a bet distribution of doctors throughout the state. Such a progra may also help to offset criticism that has arisen in some are where there seemed to be a lack of medical service and whe however, it became evident upon investigation by the coun society that a physician either was not needed or could n be supported. In these cases, the only course remaining f the placement service was to try to inform the communi tactfully of the facts. In a few instances this has stimulat a feeling that the Texas Medical Association is not willing help the community involved. The association believes that definite plan should be worked out to show the people why would be very hard to interest a doctor to settle in such location. This will be part of the responsibility of the Speci Committee on Doctor Distribution.

The first phase of the program has been completed. Th was a survey to ascertain the mass viewpoint of the medic profession as to the distribution of doctors in Texas. Ov 6,500 questionnaires were mailed to Texas physicians. The was an overwhelming response by the profession; over 6,0 questionnaires were completed and returned. Included in t questionnaire were questions as to the type of practice e gaged in, age of physician, years of practice, percentage time spent in practice, type of calls made, average numbe of patients per doctor, and other questions, such as the ph sician's opinion of his county's ability to provide adequat medical care. The second phase of the program is to dete mine what the people want. Plans are being developed t conduct a survey by dividing the state according to council or districts, which is the system of division in the state medi cal society. In each district, a three-man committee consistin of a counselor and two assistants has been set up and author ized to make an on-the-spot survey of the situation. From the answers to their questions, the committee will grade th needs of the communities. The grading and evaluation of th degree of urgency of need and the desirability of the locatio to a physician is the third phase of the special committee's program, and it will be accomplished by applying the new priority rating plan developed by the American Medical Association. This will be the first attempt on a state-wide basis to apply the priority rating and may well determine its usefulness in other parts of the U. S. With the information gained by this survey and with an accurate picture of the relative degree of need and desirability of the communities requesting a physician, the medical association will be in a better position to show the doctors desiring a location the relative merit of each location. The association will be able to increase its efforts to help the communities most in need and to point up to a community with a low desirability priority rating the steps it can take to increase its attractiveness to a physician.

The fourth phase of the program is to show the community that needs a physician how it may best attract him, or to explain to the community why it does not need a physician. To aid in this the committee on doctor distribution is preparing a booklet, "My Town Needs a Doctor," setting forth definite plans on how to make a community more attractive to a physician and also giving pertinent reasons why some communities will not be able to secure a doctor's services. It is hoped that such a procedure will lessen the degree of misunderstanding that has arisen in some communities as a result of their inability to get a doctor to locate there and serve them. The over-all accomplishment of such a program should be a major contribution in ascertaining accurately the needs of rural communities for more physicians and should convince the people of Texas that the Texas Medical Association is definitely attempting to solve the problem of maldistribution of physicians in the state.

Trial Run of Program.—Because Texas is such a large state and many unforeseen problems may be involved in carrying out the entire program of the special committee, plans are under way for a trial run in a central district that includes 10 counties. Letters outlining the program will be sent to the presidents of the county medical societies in the district. Simultaneously, letters will go to the physicians practicing in the district, inviting their opinions on the need for additional physicians in their communities. Later letters will be sent to the secretaries of the chambers of commerce in the district, explaining the survey and inviting them to contact the committee if they believe additional physicians are needed in their communities. The replies from communities indicating a desire for additional physicians will be acknowledge, and the booklet, "My Town Needs a Doctor," will be sent to them. It is an eight-page folder with outlined suggestions stressing community responsibility in getting and holding doctors. Subsequently, the counselor of the district and his committee will go to the town and talk to any doctors located there and to members of the chamber of commerce or the mayor. In the presence of all interested, the committee will apply the A. M. A. priority rating system to the community to evaluate the degree of need and desirability. If the town cannot support a practice of medicine or does not need a doctor, there will be evidence to explain the situation. If the town is in need of a doctor, its citizens will be assured that the placement service will help them.

Increased Service with State-Wide Plan.—After the Special Committee on Doctor Distribution has made a trial run and ascertained the success of the program, a full-range plan will be set up for the entire state, which will integrate the efforts of the special committee and the placement service. The communities in the state that are found in need of additional physicians will be referred to the placement service office. The regular procedure of sending listings of physicians seeking locations to the towns and of gaining information from the towns will be followed as in the past. The communities will be listed in the booklet "Location Opportunities in Texas for Physicians," which will be sent to all physicians on the mailing list. The placement service will supplement the efforts of the special committee in helping the community to develop an active program to attract a physician. To do this, the office will send to the community the new A. M. A. booklet, "A Doctor for Your Community," designed to assist the communities with ideas on developing, expanding, or improving their present facilities for a physician. Eventually the placement service hopes to have a representative from their office personally visit all communities requesting assistance and help them solve their problems. Having a field representative would obviate the need of all of the questionnaires and form letters now used, since he could collect information on the spot.

PROGRAMS ENCOURAGING GENERAL PRACTICE

Loan Fund.—A controversial course was launched in 1952 when an amendment to the state constitution was put before the citizens by referendum. The amendment established a state program and fund to subsidize the cost of educating medical personnel. It read:

> The legislature shall create a State Medical Education Board to be composed of not more than six members whose qualifications, duties and terms of office shall be prescribed by law. The Legislature shall also establish a State Medical Education Fund and make adequate appropriations therefore to be used by the State Medical Education Board to provide grants, loans or scholarships to students desiring medicine and agreeing to practice in the rural areas of this State, upon such terms and conditions as shall be prescribed by law. The term "rural areas" as used in this Section shall be defined by law.

The opponents of this amendment pointed out several weak features, which were summarized in the *San Antonio Express* and other Texas newspapers:

> The term "medical" is not defined. It is left to the legislature to determine whether it would include dentists, veterinarians, osteopaths, chiropractors, nurses and technicians.
>
> There is no limit on the number of persons whose education could be subsidized or on the amount of money the legislature must appropriate to operate the board and fund.
>
> It is a step toward socialized medicine.
>
> Additional funds to be appropriated would not be available within present estimates of state income and would require further taxes.
>
> It does not restrict assistance to Texas citizens nor require that medical education financed under it would be acquired in Texas schools.
>
> Another board or bureau would be added to the already unwieldy state governmental structure.[1]

Although the organized medical profession in Texas took "a dim view of the amendment,"[2] it passed by a small margin. Since that time, the legislature has not enacted a program nor provided funds for its operation.

Preceptorships.—The University of Texas Medical Branch, in cooperation with the Texas Medical Association and the Texas Academy of General Practice, has an active preceptorship program. Each senior medical student must apprentice himself for 11 weeks to an approved "preceptor" before he may graduate. He lives and works with his "father in medicine" in private practice. The Texas medical profession and the university expect to see a sharp increase in the number of young physicians seeking to practice medicine in rural areas.

Postgraduate and Refresher Courses.—Physician members of county medical societies frequently are privileged to hear top-notch scientific programs in their home communities by means of postgraduate telephone broadcasts staged under the active sponsorship of the Texas Medical Association. From one of the teaching centers of the state, a program originates consisting of a discussion by experienced clinicians and teachers on a selected topic. Certain visual aids are made available to the listeners with each program from the special committee on postgraduate work. With this arrangement, there is little difference from the listener's viewpoint in hearing the program or actually being in the presence of the speakers. The University of Texas School of Medicine has organized teams that are available to county medical societies anywhere in the state for short-term refresher courses in pediatrics, obstetrics and gynecology, medicine, surgery, physical medicine, basic sciences, and tumor clinics.

The Postgraduate School of Medicine of the University of Texas, with its central division in Houston and subdivisions in San Antonio, San Angelo, Temple, Lubbock, Corpus Christi, and Tyler, offers postgraduate refresher courses. This dispersion of the faculty brings the courses closer to the physicians in outlying areas. Baylor University College of Medicine and Southwestern Medical School of the University of Texas also have postgraduate refresher courses throughout the year. The Academy of General Practice sponsors refresher courses primarily for general practitioners during the year. The Texas division of the American Cancer Society, usually in collaboration with the local county medical societies, sponsors weekly

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1. San Antonio Express, Nov. 3, 1952.
2. Houston Chronicle, Sept. 29, 1952.

tumor clinics in many places in the state. Both the Postgraduate Medical Assembly of South Texas and the International Postgraduate Medical Assembly of Southwest Texas hold regular meetings for physicians. There are various clinical conferences held throughout the state. The Dallas Southern Clinical Society holds spring conferences and short refresher courses throughout the year. In Wichita Falls, Waco, and Fort Worth, one day clinical conferences are held for interested physicians.

Special Services Available to Rural Physicians.—The M. D. Anderson Hospital for Cancer research, diagnosis, and treatment is open to patients referred from physicians throughout Texas. The University of Texas Medical Branch in Galveston, with its hospitals, laboratory facilities, and faculty, is available for consultation and care of referred patients.

Expansion Program for Medical Schools.—The legislature has appropriated funds for the expansion of the present state-subsidized medical schools. The first unit of permanent buildings will be built in Dallas at Southwestern Medical School, which has been in operation in temporary quarters for several years. The expansion program of the University of Texas Medical Branch in Galveston is in the final stages of completion. The funds for the program were appropriated by the legislature from the general funds. The expanded facilities will increase the teaching capacity of the school approximately 25%.

BUREAU OF LEGAL MEDICINE AND LEGISLATION

MEDICOLEGAL ABSTRACTS

Malpractice: Childbirth.—This was a suit for damages against the defendant physician for alleged negligent treatment and care during an obstetric case. From a judgment in favor of the plaintiff, the defendant physician appealed to the Supreme Judicial Court of Massachusetts.

The defendant was an obstetrician of wide experience, whom the plaintiff first consulted on Aug. 29, 1946, when she was about four months pregnant with her first baby. It was agreed that he would give her prenatal care and would deliver her baby at a certain hospital in Cambridge, the city in which she lived. She visited his office every few weeks, and all was proceeding in a normal manner. Her sixth and last visit was on Jan. 6, 1947, within three or four weeks of her expected date of confinement. The defendant testified that on that occasion everything was normal, including the position of the fetus, which he did nothing to change as the head was engaged in the pelvis. On the other hand, the testimony of the plaintiff was that on that occasion the defendant caused her to lie on the examining table, listened to the fetal heart, and "turned the child"; that he placed his hands on each side of her abdomen, and with "a quick sharp motion he pushed his hands down so that what was in her stomach turned around"; that she felt a sharp pain and screamed, "What are you doing?"; that the defendant replied, "I pushed the child's head downward"; that she experienced "a terrible sharp gripping pain . . . all over her stomach"; and that he told her to expect the baby at any time, to call him at the first sign, and that he would come as soon as she called.

The plaintiff further testified that about 11 o'clock that same evening, while in bed, she felt a sudden gush of blood, which "hit down to her ankles" with great force. It was "coming down all the time," and she suffered great pain. The plaintiff's husband testified that about 11:30 p. m. he telephoned the defendant and told him that she was ready to go to the hospital, was gushing blood and suffering severe abdominal pain, and that the defendant should come immediately; that the defendant told him to observe the plaintiff for an hour and to call him back; that he observed the plaintiff's condition; that there was "more blood all over the blanket, a lot of blood"; that he called the defendant again in half an hour, he could not wait the full hour; that he told the defendant that she was continuing to bleed and was suffering great pain and asked what he should do; that the defendant said that it sounded like a separation of the placenta, and that the defendant would meet him at the hospital immediately; and that he then drove the plaintiff to the hospital, arriving at 12:30 a. m. What happened during the remainder of the night, said the court, is disputed. The defendant testified that he received a telephone call from the hospital at 1 a. m. and went there immediately, arriving at 1:30; that he examined the plaintiff and observed that she was in mild labor; that he was not certain that true labor had started; that her membranes had ruptured; that he observed no blood; that he concluded that the fetal heartbeats were normal; that after 15 minutes he went to another patient at another hospital; that, when he left, the baby was alive and "things were proceeding along"; that around 5 a. m. he received a telephone call from the night supervisor to the effect that the patient had become nauseated, vomited, and passed two blood clots, after which the nurse listened for the fetal heart beat, which had not been present for a half hour; that his diagnosis at that time was separation of the placenta, and he felt able to make that diagnosis from the telephone conversation; that after receiving "a call of that nature, passage of the blood, abdominal pain," his first duty was to go to the hospital immediately; that he always did that; that that was the accepted practice in the community; that he saw the plaintiff a little after 5 a. m.; and that he could not hear the fetal heartbeat, the obvious explanation being that the baby was probably dead and had died during his absence.

On the other hand, there was testimony from another patient that she was in the "labor room" with the plaintiff from about the time of her arrival; that she did not see the defendant there at any time between 1 a. m. and 3 a. m.; that she saw two doctors between 7:30 a. m. and 8:30 a. m.; and that they were the first men she saw in the room. The plaintiff testified that she saw no doctor before 3 a. m.; and that the first time she saw the defendant was in the morning daylight. The plaintiff's husband testified that he stayed at the hospital until 3:45 a. m.; that he did not see the defendant; that he received a telephone call from the defendant between 7 a. m. and 7:30 a. m.; that the defendant said, "I just arrived. Come down immediately. It is important, but don't be alarmed"; that he went to the hospital; and that then the defendant informed him that the plaintiff must have an operation. A cesarean operation was performed at 11 a. m. The baby was born dead. The defendant's diagnosis was confirmed. The placenta was completely detached. The plaintiff "had the ultimate in complication of abruptio placentae."

There was considerable expert testimony from the defendant. There are four types of separated placentas. In the type that the plaintiff developed, there is bleeding into the muscle fiber of the uterus. This is a very serious complication, and, when diagnosed properly, a cesarean operation should be performed and the uterus emptied as quickly as possible. It is unusual for the placenta to separate before the baby leaves the womb. There are a number of causes for such an occurrence: trauma; version, properly or improperly done; and any disturbance of any magnitude to the fetus or to the mother. A version is a procedure whereby the baby's position is changed externally. It means that if the buttocks were downward, the baby is turned around so that the head would be downward. The defendant testified that there was no version operation on the plaintiff because the head was always down; that he never told her that he performed a version operation; that version was one procedure he had been set against his whole life; that he had always taught and preached against it; that it was accepted practice in some places, some people did it, but that he did not do it, because he thought the procedure was highly dangerous.

On the evidence, said the court, it could have been found that the defendant made a diagnosis of a separated placenta as early as 12 p. m. on Jan. 6; that he did not see the plaintiff until dawn or 7 a. m. on Jan. 7; and that, in the type of separated placenta that the plaintiff had, when diagnosed properly, a cesarean operation should have been performed and the uterus emptied as quickly as possible. The jury could have found that the information that the husband testified he gave the defendant before midnight of the day before was similar to that that the defendant testified he received from the night supervisor, and that, in accordance with his own testimony as to the practice in the community, he should have gone to the hospital the night before or, in any event, before dawn. Moreover, if the jury believed that a version was performed on the plaintiff, they could find that the defendant had within 24 hours performed an act that he believed to be dangerous and that, however well done, could be a cause of a separated placenta. In these circumstances, the court concluded, without reference to the extracts from the medical treatises introduced in evidence, the jury could find that defendant did not exercise the care and skill required of him as an obstetrician. The plaintiff sustained harm. We cannot accept the defendant's argument that evidence of causal negligence was lacking. In view of the fact that there was substantial evidence to sustain the finding of the jury, the judgment of the trial court was affirmed and the defendant's exceptions overruled. *Thomas v. Ellis, 106 N. E. (2d) 687 (Massachusetts 1952).*

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DISCUSSION OF THE FEE

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From a successful physician comes this suggestion: "In estimating fees, if I am in doubt, I estimate the charge a little higher than it may be. Then the patient is pleased when he later receives a bill for a smaller sum." Most patients do not object to fair, understandable charges; they do object to unexplained, unexpected charges. It is up to America's physicians to prevent misconceptions about medical fees and medical economics.

Costs of illness can be reduced in many ways. Whenever possible, point out to patients that it is more economical to treat them in the office than in their home or at the hospital. The number of unnecessary calls can be reduced by more effectively using the telephone. For example, a patient who comes into your office for treatment of a minor condition can be told: "I doubt if you will have any more trouble but call me in a day or two and let me know how you are." This shows interest and yet saves the patient the price of an office call he may not need. The doctor can reduce medical costs, too, by performing only those tests and procedures that will directly help in diagnosis and treatment. One medical leader says: "Use hospitals and tests only as necessary; these are expensive items. Don't forget that overuse affects the insured just as much as the man who pays his bills directly; the premium simply goes up. Don't prescribe high cost items when a comparable low cost item is available. When cost is a factor in a case, don't write prescriptions for the costly newer drugs unless their use is clearly indicated, and their administration should not be continued unless positively favorable results are obtained in a reasonable period of time and minimal dosage determined."

Do not prescribe drugs in large quantities. This is a waste of the patient's money. Some patients are told by their physicians to buy 20 tablets when 10 would suffice. A physician may not have a real idea of the cost of the items he is prescribing. He can do his patients a real service by checking with local druggists and working up an informal comparative price list on various items. On this basis he can bring his patients' drug bills down somewhat.

Irritating to both physicians and patients alike is the house call that involves several members of the same family. For instance, a doctor is called to see little Johnny who has the flu. When he arrives, the mother and father also ask him to check the three other children. If he renders a bill for service to four children, the family is angry. Yet in a way it is an imposition to expect a physician to see four patients and receive payment for service to only one. The answer to this problem seems to lie in the amount of time the call necessitates. If extensive medical service is given to all four children, then certainly a higher bill is indicated. Otherwise, the physician may charge for one house call—or charge a slightly higher fee.

To sum up, the physician can save money for the patient by recommending office calls rather than house or hospital calls, if such procedure is clearly warranted; reducing unnecessary office visits by using telephone follow-ups; performing expensive tests only when necessary; using hospitals only when necessary; prescribing low-cost drugs rather than high-cost items when possible; and by prescribing only for quantities needed.

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Retire to Life: 16 mm., black and white, sound, showing time 20 minutes. Produced by the University of Oklahoma for the Oklahoma State Department of Health, A. A. Hellams, Psychiatric Consultant. Procurable on rental or purchase from International Film Bureau, 57 East Jackson Blvd., Chicago 4.

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The tempo of the entire film is slow. Owing to the frustrations of the main character in attempting to find his place in the world, it becomes a very heavy and oppressive story. It appears that the purpose of this film is to teach persons in their 50's and 60's the necessity of preparing for retirement and developing a willingness to retire to life rather than from something. It would be useful also for those who are concerned with counseling older persons in matters of health and social adjustment. This movie might be used with audiences of community workers and employers to make them more aware of the problems facing older persons. It would not, however, help old persons themselves to find more satisfying adjustments. In fact, it would be far more likely to arouse their anxiety. The photographic and sound qualities of this film are very good.

tumor clinics in many places in the state. Both the Postgraduate Medical Assembly of South Texas and the International Postgraduate Medical Assembly of Southwest Texas hold regular meetings for physicians. There are various clinical conferences held throughout the state. The Dallas Southern Clinical Society holds spring conferences and short refresher courses throughout the year. In Wichita Falls, Waco, and Fort Worth, one day clinical conferences are held for interested physicians.

Special Services Available to Rural Physicians.—The M. D. Anderson Hospital for Cancer research, diagnosis, and treatment is open to patients referred from physicians throughout Texas. The University of Texas Medical Branch in Galveston, with its hospitals, laboratory facilities, and faculty, is available for consultation and care of referred patients.

Expansion Program for Medical Schools.—The legislature has appropriated funds for the expansion of the present state-subsidized medical schools. The first unit of permanent buildings will be built in Dallas at Southwestern Medical School, which has been in operation in temporary quarters for several years. The expansion program of the University of Texas Medical Branch in Galveston is in the final stages of completion. The funds for the program were appropriated by the legislature from the general funds. The expanded facilities will increase the teaching capacity of the school approximately 25%.

BUREAU OF LEGAL MEDICINE AND LEGISLATION

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The plaintiff further testified that about 11 o'clock that same evening, while in bed, she felt a sudden gush of blood, which "hit down to her ankles" with great force. It was "coming down all the time," and she suffered great pain. The plaintiff's husband testified that about 11:30 p. m. he telephoned the defendant and told him that she was ready to go to the hospital, was gushing blood and suffering severe abdominal pain, and that the defendant should come immediately; that the defendant told him to observe the plaintiff for hour and to call him back; that he observed the plaintiff's dition; that there was "more blood all over the blanket, of blood"; that he called the defendant again in half an hour, he could not wait the full hour; that he told t defendant that she was continuing to bleed and was sufferi great pain and asked what he should do; that the defenda said that it sounded like a separation of the placenta, and th the defendant would meet him at the hospital immediate and that he then drove the plaintiff to the hospital, arrivi at 12:30 a. m. What happened during the remainder of t night, said the court, is disputed. The defendant testified t he received a telephone call from the hospital at 1 a. m. a went there immediately, arriving at 1:30; that he examin the plaintiff and observed that she was in mild labor; that was not certain that true labor had started; that her me branes had ruptured; that he observed no blood; that concluded that the fetal heartbeats were normal; that af 15 minutes he went to another patient at another hospit that, when he left, the baby was alive and "things w proceeding along"; that around 5 a. m. he received a telepho call from the night supervisor to the effect that the pati had become nauseated, vomited, and passed two blood cl after which the nurse listened for the fetal heart beat, whi had not been present for a half hour; that his diagnosis that time was separation of the placenta, and he felt able make that diagnosis from the telephone conversation; t after receiving "a call of that nature, passage of the blo abdominal pain," his first duty was to go to the hospi immediately; that he always did that; that that was the cepted practice in the community; that he saw the plain a little after 5 a. m.; and that he could not hear the fe heartbeat, the obvious explanation being that the baby w probably dead and had died during his absence.

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MEDICAL LITERATURE ABSTRACTS

UNITED STATES

A.M.A. Arch. Otolaryngology, Chicago

58:235-376 (Sept.) 1953

Cortisone and Acute Lye Corrosion of Esophagus. V. M. Smith, J. R. Compton and E. D. Palmer.—p. 235.
Congenital Laryngeal Stridor. G. Kelemen.—p. 245.
Penicillin as Thromboplastic Agent. B. M. Volk and S. Mukerji.—p. 269.
Vertigo: Therapeutic Approach Based upon Its Physiopathological Aspect. B. Welt.—p. 273.
Pistonphone. F. L. Dunn and W. E. Rahm Jr.—p. 301.

A.M.A. Arch. Surgery, Chicago

67:297-492 (Sept.) 1953

Critique of Articular Replacement. S. S. Hudack, W. H. McGaw, W. S. Duncan and others.—p. 297.
Cardiac Arrest: Its Prevention and Treatment. E. H. Fell, L. F. Peterson and N. Chun.—p. 312.
Surgical Treatment of Congenital Funnel-Chest Deformity. E. B. Mahoney and G. L. Emerson.—p. 317.
*Surgical Aspects of Spontaneous Hypoglycemia Due to Occult Insulinoma. F. A. dePeyster and R. K. Gilchrist.—p. 330.
Method of Gastrointestinal Anastomosis. E. P. Vary.—p. 341.
Surgical Treatment of Postirradiation Rectal Stricture and Rectovaginal Fistula. E. S. Brintnall.—p. 346.
Polyps of Colon: Late Results of Transcolonic Removal. E. S. Judd Jr. and J. C. Carlisle.—p. 353.
Modified Technique for Total Colectomy in Ulcerative Colitis. L. S. Fallis and J. Barron.—p. 363.
Transcranial Removal of Intraorbital Tumors. J. G. Love and H. W. Dodge Jr.—p. 370.
*Nocardiosis: Aerobic Actinomycosis with Emphasis on Alimentary Tract as Portal of Entry. R. C. Hickey and E. M. Berglund.—p. 381.
Malignant Tumors of Soft Tissues of Extremities. E. A. Lawrence, J. W. Dickey and F. Vellios.—p. 392.
Splenic Puncture. D. O. Ferris and M. M. Hargraves.—p. 402.
Clinical Aspects of Acute Peripheral Oligemia from Plasma Water and Sodium Salt Loss. R. E. L. Berry.—p. 408.
Hemolytic Reactions Associated with Surgical Procedures. J. E. Conley, D. M. Willson, D. D. Claudon and D. G. Santer.—p. 426.
Duodenal Ulcer Treated by Subdiaphragmatic Vagus Resection and Posterior Gastroenterostomy: Interim Report. S. O. Hoerr.—p. 436.
Treatment of Duodenal Ulcer by Subtotal Gastric Resection: 10 Year Study. O. G. McDonald, M. G. Gillespie and R. H. LaBree.—p. 444.
Surgical Treatment of Giant-Sized Benign Penetrating Ulcers of Stomach. H. H. Shoulders Jr. and C. E. Lischer.—p. 451.
Evaluation of Protein and Fat Metabolism in Postgastrectomy Patients. L. I. Babb, A. B. Chinn, R. M. Stitt and others.—p. 462.

Spontaneous Hypoglycemia Owing to Occult Insulinoma.—A diagnosis of insulinoma is indicated whenever a patient presents the criteria constituting Whipple's triad. These are (1) signs and symptoms of insulin shock, usually progressive and often induced by fasting or exercise; (2) repeated fasting blood sugar concentrations below 50 mg. per 100 cc.; and (3) symptomatic relief by dextrose administration. Insulinomas, or insulin-secreting islet cell adenomas of the pancreas, are frequently occult and may escape detection on surgical exploration. The adequacy of surgical therapy should, therefore, be substantiated at the operating table while the abdomen is open by (1) the demonstration of the tumor in the surgical specimen, confirmed by rapid histological examination, and (2) observation of a rise in the blood sugar level after resection, as compared with the base level obtained from blood drawn during the exploration of the abdomen before resection of the tumor. A comparative hyperglycemic response in t presence of an islet cell tumor demonstrated in the surgi specimen suggests that resection has been adequate. Failu to observe a significant rise in blood sugar indicates th further, and possibly even total, resection is needed. Subto pancreatectomy (at least to the right of the superior mesente vessels) may be expected to prove adequate in 75% of ca of occult adenomas; it should provide a 50% chance of cu for hypoglycemia owing to pancreatic hyperplasia and shou also benefit two-thirds of the patients with hypoglycemia whom the resected pancreas is normal. Hormone therapy m prove beneficial in patients who refuse surgical treatment in whom the operative risks contraindicate operation. Surgic excision of the tumor is, however, the treatment of choi because from 5 to 10% of the pancreatic adenomas a malignant. In addition, an untreated insulinoma may cau irreversible damage to the central nervous system by pr ducing progressive attacks of hypoglycemia.

Nocardiosis.—Nocardiosis is an actinomycotic infection caus by an aerobic genus of the family Actinomycetaceae. Nocard asteroides is the fungus most frequently responsible for th infection, which may vary from a frank abscess to a granulor atous lesion. The invading organisms may gain entrance the host by the routes of inhalation, skin penetration, ingestion. The clinical syndrome of nocardiosis is subject modification by host resistance, pathogenicity, and duration disease. Primary pulmonary infections are prevalent, bu external trauma can allow the disease to involve soft tiss and bone. The patient's course may be similar to that follo ing an emaciating illness, with local and blood-borne sprea of the infection. Treatment in the past was disappointing, bu excellent results were obtained in five patients treated b surgical intervention, chemotherapy, and an appropriate ant biotic. Adequate free surgical drainage or extirpation of th nocardiosis is essential for cure. The chemotherapeutic age of choice is sulfadiazine in adequate dosage combined with a antibiotic; both penicillin and oxytetracycline (Terramycin have proved effective in overcoming nocardial infections.

American Heart Journal, St. Louis

46:479-638 (Oct.) 1953

Sir James Mackenzie: 1853-1953. I. Stevenson.—p. 479.
Critical and Comparative Analysis of Methods in Electrocardiograph Employing Mean QRS and T Vectors. P. H. Langner Jr., E. J Dewees and S. R. Moore.—p. 485.
Mean Spatial Vectorcardiography: Influence of Age, Sex, Body Build and Chest Configuration on QRS Vector in Normal Individuals. D. L Urschel and D. C. Abbey.—p. 496.
Direct Spatial Vectorcardiogram in Infant. S. R. Elek, B. J. Allenstein and G. C. Griffith.—p. 507.
Vectorcardiographic Derivation of Scalar Leads. R. A. Helm.—p. 519.
*Effects of Exercise and Smoking on Electrocardiograms and Ballistocardiograms of Normal Subjects and Patients with Coronary Artery Disease. F. W. Davis Jr., W. R. Scarborough, R. E. Mason and others. —p. 529.
Variations of Form of T Waves in Auricular Flutter and Auricular Fibrillation, Associated with Changes of Rate. D. Scherf and S. Blumenfeld.—p. 543.
Transient Cardiac Arrhythmia Induced by Nonpenetrating Trauma to Chest. H. B. Taylor.—p. 557.
*Changes in Incidence and Types of Heart Disease: Quarter-Century Follow-Up in Southern Clinic and Hospital. J. M. Hutcheson Jr., M. R. Hejtmancik and G. R. Herrmann.—p. 565.
Use of Protoveratrine in Treatment of Hypertensive Vascular Disease. J. H. Currens, G. S. Myers and P. D. White.—p. 576.
Treatment of Hypertension with 1-Hydrazinophthalazine (Apresoline). R. P. Johnson.—p. 593.
Exposure of Human Cardiac Muscle to Radioactive Digitoxin in Vitro. W. J. Burdette.—p. 602.

Effects of Exercise and Smoking on Electrocardiograms and Ballistocardiograms.—The ballistocardiographic and electrocardiographic responses to the two-step exercise test using the Master tables for quantitation of exercise are reported in 86

Periodicals on file in the Library of the American Medical Association may be borrowed by members of the Association or its student organization and by individual subscribers, provided they reside in continental United States or Canada. Requests for periodicals should be addressed "Library, American Medical Association." Periodical files cover only the last 11 years, and no photoduplication services are available. No charge is made to members, but the fee for other borrowers is 15 cents in stamps for each item. Only three periodicals may be borrowed at one time, and they must not be kept longer than five days. Periodicals published by the merican Medical Association are not available for lending but can be plied on purchase order. Reprints as a rule are the property of authors can be obtained for permanent possession only from them. tles marked with an asterisk (*) are abstracted.

patients with coronary disease and 114 normal control persons with an average age of 49 and 46.5 years, respectively. Also reported are the responses to cigarette smoking in 82 patients with coronary artery disease and 118 normal control persons with an average age of 49 and 47.7 years, respectively. Men predominated in a ratio of 4 to 1 in the 200 persons subjected to the Master test and in a ratio of 5 to 1 in the 200 persons subjected to the smoking test. The ballistocardiogram deteriorated after exercise in 7.9% of the normal control persons and in 31.4% of the patients with coronary artery disease. The electrocardiographic response to exercise was positive by Master's criteria in 22.8% of the normal controls and in 50% of the patients with angina pectoris or remote myocardial infarction. The diagnostic margin of differentiation between persons with abnormalities and normal controls obtained by the stress of exercise was 4 to 1 by the ballistocardiograph and 2 to 1 by the electrocardiograph. The ballistocardiogram deteriorated after smoking a cigarette in 68% of the normal control persons and in 58.6% of the patients with coronary artery disease. The diagnostic margin obtained with the smoking test was 9 to 1. One-half of a milligram of nicotine base (nicotinic acid tartrate dissolved in 2 cc. of 35% alcohol) was administered sublingually to 10 persons in order to determine the importance of nicotine in the production of the smoking effect on the ballistocardiogram. The elicited ballistocardiographic alterations were similar to those observed after smoking in the 10 persons tested. The diagnostic value of the ballistocardiographic two-step test is limited. The difference between the incidence of positive tests in patients with coronary artery disease and in presumably normal controls is too small to be of importance in diagnosis. Contrary to expectation, only twice as many patients with coronary artery disease as normal control persons had a positive reaction to the two-step electrocardiographic test. Of all objective tests employed in the authors' study, the ballistocardiographic cigarette smoking test served best to differentiate patients with coronary artery disease from control persons. The causes of the changes in the ballistocardiogram after smoking are not known. It is suggested that the effect may be the result of nicotine action on the hypothalamic-posterior pituitary axis, with resultant release of vasopressin (Pitressin), which acts as a vasoconstrictor. This report should encourage further investigation of the effects of smoking and nicotine on the cardiovascular functions studied by analysis of the form of the ballistocardiogram rather than the routine use of the cigarette smoking test as a diagnostic procedure.

Incidence and Types of Heart Disease.—Of 34,342 patients seen at a Southern medical center between September, 1951, and February, 1953, 1,000 had organic heart disease. Of these 1,000 patients, 556 were men and 444 were women, 637 white and 363 Negroes. Hypertensive and arteriosclerotic heart disease were by far the commonest types; together they made up 77.9% of the entire series. The next in frequency were congenital heart disease, diagnosed in 7.2%, and rheumatic heart disease in 6.5%. Syphilitic heart disease occurred in only 2.3% of the patients. Comparison of these data with those by two previous studies made at the same medical center in 1927 and 1931 revealed that the incidence of organic heart disease is still greater in the Negro than in the white person, but much less so than 25 years ago. The incidence of hypertensive heart disease is approximately the same as before, but that of arteriosclerotic heart disease has increased. There has been a tenfold increase in the diagnosis of congenital heart disease associated with the greater awareness of congenital heart disease and improvement in diagnostic accuracy. Syphilitic heart disease has conspicuously decreased and is now infrequent. Rheumatic heart disease has shown little change in frequency, but there has been a slight decrease in bacterial endocarditis, apparently resulting from modern prophylactic therapy. Hypertension, as before, is commoner in the Negro than in the white, while arteriosclerosis is less frequent; however, the peak age incidence of hypertension seemingly occurs a decade later in each race than in the previous studies. There has been a striking increase in the diagnosis of angina pectoris, which, although commoner in the white, has been frequently recorded in the Negro.

American Journal of Occupational Therapy, Milwaukee

7:199-240 (Sept.-Oct.) 1953. Partial Index

Occupational Therapy Technics for Pre-School Hemiplegic: Toys and Training. I. P. Robinault.—p. 205.

*Group Therapy with the Chronically Ill. B. Koven and F. L. Shuff. —p. 208.

Evaluation of Clinical Practice Programs for Occupational Therapy Students. C. S. Spackman.—p. 210.

Occupational Therapy and the Hand Splint. F. Silverstein.—p. 213.

Some Uses of Suspension Sling in Treatment of Poliomyelitis. V. W. Svensson and M. C. Brennan.—p. 217.

Group Therapy with the Chronically Ill.—Group therapy meets successfully the needs of a chronic patient. The chronically ill patient lives in an egocentric world. He is assisted by nurses and attendants as his daily needs require. He is asked for nothing in return and easily grows accustomed to receiving with little thought for giving. Most of the children with which these authors are concerned had spent their entire lives in hospitals; they had had little normal experience. Common everyday objects were not perceived, and, when asked, the therapist was told that "potatoes grew mashed," horses "gave milk," and bread "came on a plate." Animals other than cats and dogs were strange. A program was organized that gave the children a dance-play experience. Dance movements were performed in wheel chairs and with the upper half of the body. When the children grew tired, they sang rounds, which were enjoyed enormously, and these required group discipline. A "painting day" was started, and some worked in other mediums. Little allowance was made for their disabilities other than to adapt equipment to fit their needs. The success and gratification resulting from their efforts has given rise to a healthy enthusiasm. Group therapy planning has also been introduced into craft work. No one of the patients can complete an entire project by himself, and the dependence on each other and cooperation within teams has made for a healthy working situation that is preparing them for future sheltered employment.

American Journal of Pathology, Ann Arbor, Mich.

29:817-992 (Sept.-Oct.) 1953

Sudden Apparently Unexplained Death During Infancy. II. Pathologic Findings in Infants Observed to Die Suddenly. J. Werne and I. Garrow. —p. 817.

Id.: III. Pathologic Findings in Infants Dying Immediately After Violence, Contrasted with Those After Sudden Apparently Unexplained Death. I. Garrow and J. Werne.—p. 833.

Ovarian Rete Cysts. S. C. Sommers.—p. 853.

Observations on Human Tissue Cultures Naturally Infected by Histoplasma Capsulatum. C. C. Randall and A. L. Hackney.—p. 861.

*Role of Mucopolysaccharides in Pathogenesis of Intimal Fibrosis and Atherosclerosis of Human Aorta. H. E. Taylor.—p. 871.

Musculature of Lungs in Chronic Pulmonary Disease. A. A. Liebow, W. E. Loring and W. L. Felton.—p. 885.

Necrotizing Granulomatosis and Angiitis of Lungs and Its Relationship to Chronic Pneumonitis of Cholesterol Type. R. Fienberg.—p. 913.

Histopathology of Host-Induced Alterations in Strain Specificity of Sarcoma I in Mice. D. M. Spain, N. Molomut, L. Kreisler and S. D. Gault.—p. 933.

Effects of ACTH and Cortisone upon Susceptibility to Trichinosis in Mice. R. D. Stoner and J. T. Godwin.—p. 943.

Keratomalacia and Panophthalmitis in "Yellow" Mice. M. Silberberg and R. Silberberg.—p. 951.

Absorption of Collagen in Liver: I. Histologic Changes Accompanying Absorption of Implanted Surgical Gut in Liver. H. Ungar and J. D. Feldman.—p. 963.

Id.: II. Observations on Absorption of Implanted Surgical Gut Under Various Dietary Conditions. H. Ungar.—p. 973.

Paracalyceal Cysts of Renal Sinus. H. J. Barrie.—p. 985.

Mucopolysaccharides in Aortic Atherosclerosis.—Taylor points out that in recent years stress has been placed on the role of lipid deposition in the pathogenesis of atherosclerosis and that little attention has been paid to structural changes in the vessel wall. The present study deals with the human aorta, particular attention being paid to the relationship between the elastic fibers and the intercellular substance. The tissue examined was taken mainly from areas that showed no gross atheromatous plaques, other than occasional small fatty streaks. The tissue was obtained from routine necropsy material, 124 blocks being examined from 88 cases including all age groups. It was found that subendothelial, or so-called intimal fibrosis, was present regularly in adult aortas that appeared grossly normal or showed only minimal fatty streaking. It is also common in children. This fibrosis probably is initiated by lipid deposition. It may be confined to the intima, but frequently there is an associated degeneration of the inner layer of the media. In many cases, what at first appeared to be intimal fibrosis proved to be subendothelial fibrosis plus degeneration of the inner media. Medial degeneration is characterized by fragmentation and loss of elastic tissue with an associated accumulation of mucopolysaccharide, probably chondroitin sulfate. It is suggested that the abnormally large pool of mucopolysaccharide is derived from degeneration of elastic tissue of the media and may play a part in either the development of an atheromatous plaque or in hyalinization of the aorta.

American Journal of Surgery, New York

86:249-360 (Sept.) 1953

Pancreatic Cysts. L. S. Fallis and J. Barron.—p. 255.

Annular Pancreas. A. J. Tomsykoski, R. C. Stevens and P. A. Izzo.—p. 260.

Thoracic Duplication of Alimentary Tract. G. W. Ware and H. A. Conrad.—p. 264.

Complications Following Open Reduction and Plating of Fractures of Tibia. H. E. Wiggins, W. D. Bundens and B. J. Park.—p. 273.

Problem of Radical Breast Surgery. T. C. Case.—p. 282.

Carcinoma of Biliary Tract. I. S. Goldenberg.—p. 292.

*Effect of Bactericidal Agents on Sterility of Surgical Linen: Experimental and Clinical Study. H. D. Propst.—p. 301.

Liver Necrosis Following Complete Interruption of Hepatic Artery and Partial Ligation of Portal Vein. H. L. Popper, N. C. Jefferson and H. Necheles.—p. 309.

Clinical Evaluation of Succinylcholine Chloride as Muscle Relaxant in Anesthesia. P. C. Lund.—p. 312.

Hepatoma: Report of an Unusual Case Complicated by Subphrenic Hemorrhage. J. A. Lazarus and F. Friedmann.—p. 318.

New Aureomycin Dressing: Rationale and Use in Treatment of Surface Wounds. J. A. Tamerin, W. I. Metzger and L. T. Wright.—p. 325.

Control of Bleeding. D. A. Sherber.—p. 331.

Sterility of Surgical Linen.—According to Propst, little attention has been given to the sterility of surgical linen during operations, except to avoid contamination by direct contact with unsterile objects. Beck and Collette pointed out how easily wet drapes and gowns become contaminated. They proved that bacteria readily passed through two layers of wet cloth whereas two layers of dry cloth prevented such migration. Studies were made to determine (1) if bacterial migration through wet or dry linen is serious enough to warrant protective measures and (2) what materials and techniques can be used to offer maximal security. Experimental and clinical studies made at the Robert Packer Hospital proved that unprotected wet surgical linen furnishes a route of transmission of bacteria to wounds from unsterile areas. Because of the potential hazard, water and sodium chloride solution should be cautiously used in operating rooms, and wet areas should be considered contaminated and treated as such. Methods of eliminating or decreasing this type of contamination are discussed. One method (incorporating bactericidal agents into surgical linen) was intensively studied. The properties of an ideal bactericidal substance to use in such a situation are enumerated. Laboratory and clinical studies demonstrated the protective qualities of Roccal, a benzalkonium chloride, cationic quarternary compound, and hexachlorophene. Incorporating these agents into the final rinse in laundering surgical linen will decrease the possibilities of contamination from this source. Search for an ideal agent should be continued.

Arkansas Medical Society Journal, Fort Smith

50:59-76 (Sept.) 1953

Acute Diffuse Interstitial Fibrosis of Lungs: Report of Case. S. M. Wilson.—p. 60.

Pseudo-Leukemic Reaction to Pertussis: Report of Two Cases in Identical Twins. J. M. Gowdy.—p. 64.

Cancer Philadelphia

6:853-1064 (Sept.) 1953

*Primary Benign Liver-Cell Tumors in Infancy and Childhood. W
Christopherson and H. S. Collier.—p. 853.

Carcinoma of Body of Pancreas with Fibrin Thrombosis and Fib
genopenia. D. G. McKay, H. Mansell and A. T. Hertig.—p. 862.

Relationship Between Carcinoma of Breast and Acne. M. R. L
and A. B. Lerner.—p. 870.

Relationship Between Carcinoma in Situ and Invasive Cervical Ca
oma: Consideration of Contributions to Problem to Be Made
General Population Data. J. E. Dunn Jr.—p. 873.

Adenocarcinoma in Situ of Endocervix. G. H. Friedell and D
McKay.—p. 887.

In Situ Carcinoma of Prostate with Intraepithelial Extension Into Ur
and Bladder: Paget's Disease of Urethra and Bladder. L. G. O
W. F. Whitmore Jr. and A. I. Murphy.—p. 898.

Action of Acid Phosphatase from Cancerous and Noncancerous H
Prostate on Various Substrates. M. K. Schwartz, I. Asimov and
Wotiz.—p. 924.

Interrelationship of Nitrogen and Phosphorus in Patients with C
Neoplastic Diseases. L. D. Fenninger, C. Waterhouse and E. H.
mann.—p. 930.

Malignant Melanoma Occurring in Xeroderma Pigmentosum: Repo
Case. H. T. Van Patter and J. A. Drummond.—p. 942.

Neck Tumors, or Leukemia, Developing in Adult C3H Mice Follo
Inoculation, in Early Infancy, with Filtered (Berkefeld N), or C
fugated (144,000 × g), Ak-Leukemic Extracts. L. Gross.—p. 948

Psychological Impact of Cancer and Cancer Surgery: II. Depre
Reactions Associated with Surgery for Cancer. A. M. Sutherland
C. E. Orbach.—p. 958.

*"Field Cancerization" in Oral Stratified Squamous Epithelium: Cl
Implications of Multicentric Origin. D. P. Slaughter, H. W. S
wick and W. Smejkal.—p. 963.

Radical Mastectomy Combined with In-Continuity Resection of H
lateral Internal Mammary Node Chain. E. D. Sugarbaker.—p. 9

Surgical Treatment of Cancer of Cervix. A. Brunschwig.—p. 980.

Lymphatic Spread of Gastric Cancer. D. A. Sunderland, G. McNee
G. Ortega and L. S. Pearce.—p. 987.

Effect of Surgical Addison's Disease on Advanced Carcinoma of B
and Prostate. S. G. Taylor III, M. C. Li, N. Eckles and o
—p. 997.

Needle Biopsy of Liver: Diagnostic Aid in Treatment of Cance
Bowden and S. Kravitz.—p. 1010.

Clinical Use of Radioactive Gold (Au^{195})Seeds. A. G. James, U
Henschke and W. G. Myers.—p. 1034.

Primary Benign Liver Cell Tumors in Childhood.—Accor
to Christopherson and Collier, liver cell carcinomas in inf
and children are usually so advanced by the time the diagr
is made that surgical removal is not possible. The ave
duration of life after the onset of symptoms has been fo
to be about four months. There are, however, benign prin
liver cell tumors in which resection is possible with a
degree of success. The authors present the histories of t
children, aged 12, 7, and 13 years, respectively, in wh
primary benign tumors of the liver were successfully remo
In the first two, the diagnosis was hamartoma of the li
One of these was seen last 9 months after the operation, w
the child was asymptomatic; the other was without evide
of disease three years after operation. In the third, the op
tion was done in 1926, when the girl was 13 years old;
diagnosis was benign liver cell adenoma. This patient
25 years later, and autopsy revealed multiple polyposis
the colon, with two separate primary mucinous adenoca
nomas. The liver was largely replaced by metastatic mucin
cancer. Among other reported benign tumors in infancy
childhood, some were found at autopsy and others at the t
of surgical exploration. Of the latter, not all were resect
As might be expected, the precise classification and degree
benignancy or malignancy of certain of these tumors are o
to question. Benign primary liver cell tumors in infants
children include solitary liver cell adenomas, multiple ade
mas, and hamartomas. Cholangioma, a theoretical possibil
was not recorded in children. Solitary lesions have not be
accompanied by cirrhosis or other significant liver dise
and thus are amenable to surgical excision with a high deg
of success. Hamartomas are probably malformations rat
than true neoplasms or focal regenerative nodules and do
demonstrate the potentialities of malignant transformati
that adenomas do.

"Field Cancerization" in Oral Stratified Squamous Epitheliu
—Slaughter and associates point out that squamous cell,
epidermoid, carcinoma is the commonest cancer affecting t
human body. This tumor protoype may originate in mo
anatomic sites than any other form of carcinoma. It is t

usual cancer of the skin, lip, oral cavity, pharynx, larynx, bronchi, esophagus, anus, vulva, vagina, cervix, urethra, penis, and even bladder and renal pelvis. It may occur primarily or as a metaplastic variant in other organs. Since the behavior patterns of this morphological entity seem to have many similar characteristics in its differing locations and microscopic variations, detailed knowledge of the natural history of this disease is of importance. Oral squamous cell carcinomas were studied in 783 patients, and particular attention was given to their origin and manner of spread. Eighty-eight instances of independent multiple tumors were found, an incidence of 11.2%, which is far beyond the statistical possibility of chance occurrence. Microscopic evidence of multicentric origin was demonstrated by serial section in all excised tumors less than 1 cm. in diameter. Abnormal and hyperplastic, often atypical, epithelium was found to surround all oral cancers for varying distances. The authors were unable to derive any statistical estimate, but they believe "field cancerization" to be an important factor in recurrence or persistence of oral cancer after therapy.

Gastroenterology, Baltimore

24:467-614 (Aug.) 1953

*Fulminating Gastroenterocolitis Caused by Staphylococci: Its Apparent Connection with Antibiotic Medication. K. Terplan, J. R. Paine, J. Sheffer and others.—p. 476.
Effect of "Tween-65" and "Tween-80" on Gastrointestinal Motility in Man. H. D. Janowitz, F. Hollander and R. H. Marshak.—p. 510.
Effect of Intragastric Irradiation on Gastric Acidity in Dog. B. W. Fox, A. Littman, M. I. Grossman and A. C. Ivy.—p. 517.
An Evaluation of Kutrol in Treatment of Uncomplicated Duodenal Ulcer. M. E. Dailey and W. W. Benefiel.—p. 535.
Studies in Pancreatic Function: V. Use of Secretin Test in Diagnosis of Pancreatitis and in Demonstration of Pancreatic Insufficiencies in Gastrointestinal Disorders. D. A. Dreiling Sr.—p. 540.
Studies on Several Cholinergic Drugs as Possible Etiologic Agents in Ulcerative Colitis. W. F. Nickel Jr., G. M. Gordon and W. DeW. Andrus.—p. 556.
Massive Leiomyosarcomas of Stomach: Report of 5 Cases. G. Crile Jr. and L. K. Groves.—p. 560.

Staphylococcic Gastroenterocolitis.—Fulminating diarrhea with a shock-like state was observed in six women and two men between the ages of 44 and 69 to whom various antibiotics, such as oxytetracycline (Terramycin), chlortetracycline (aureomycin), penicillin, streptomycin, chloramphenicol, and duracillin, in comparatively small doses were given before and after diversified operations, such as repair of diaphragmatic hernia, hysterectomy, vagotomy with gastrojejunostomy, closure of perforated duodenal ulcer, partial colectomy, release of post-surgical pelvic adhesions causing ileus, and cervical amputation with oophorectomy. Nausea and vomiting frequently preceded the onset of diarrhea by one or two days. With the beginning of copious watery stools, there was usually a sharp rise of temperature and pulse and respiration rates associated with a pronounced lowering of blood pressure. The uncontrollable diarrhea appeared in most patients on the second or third postoperative day and was sometimes still associated with nausea, emesis, and abdominal distention. Once vasomotor collapse was established, it seemed irreparable in all patients. Death occurred from the 3rd to the 11th postoperative day. The causative agent responsible for the acute inflammation of the gastrointestinal tract was presented by large masses of micrococci (staphylococci) *within* the desquamated or loosely adherent pseudomembranous exudate covering the mucous coat, particularly in the small intestine. The recent inflammatory reaction was in general restricted to mucosa and submucosa. Colonies of coagulase-positive hemolytic micrococci were recovered from the intestinal tract and/or from the lungs in five patients. The clinical course and anatomicopathological findings, based in particular on bacteria stains of the tissue sections from the gastrointestinal tract and including the recent degenerative changes in the adrenals and kidneys, suggested a severely toxic infection caused by massive micrococcic action on the gastrointestinal mucosa, but not a septicemic process. The micrococci grown on blood agar in the few instances tested were resistant against all the antibiotics used in these cases. The same clinicopathological syndrome with the same rapid fatal outcome and the same pathological, microscopic, bacterioscopic, and cultural findings was present in three recently observed cases. The micrococci grown from the intestinal tract and from the lungs in these cases were sensitive only to erythromycin, but not to the antibiotics administered.

Indiana State Medical Assn. Journal, Indianapolis

46:823-928 (Sept.) 1953

Diagnosis of Pulmonary Emboli. R. N. Kent.—p. 853.
Spontaneous Hemopneumothorax. R. A. Desjardins, F. H. Spurlock and P. W. Rothrock.—p. 856.
Modern Scientific Audiology. F. Patton.—p. 860.
Intermittent Left Bundle Branch Block: Report of Case. A. T. Chappel and R. B. Watson.—p. 865.
Experience in Management of Peptic Ulcer. R. L. Johnston.—p. 869.

46:929-1116 (Oct.) 1953

Surgical Management of Sequellae of Acute Pancreatitis. M. B. Welborn. —p. 961.
Liver Disease: Surgeon's View. R. M. Bolman and R. P. Lloyd.—p. 966.
Autoimmunization in Hemological Diseases. P. J. Fouts.—p. 971.
Tracheotomy: Present Day Indications and Techniques. O. Green.—p. 974.

Journal of Bacteriology, Baltimore

66:247-376 (Sept.) 1953. Partial Index

Resistance to Lysis from Without in Bacteria Infected with T2 Bacteriophage. N. Visconti.—p. 247.
Some New Observations on L Forms of Bacteria. L. Dienes.—p. 274.
Antigenic Composition of Cryptococcus Neoformans: V. Survey of Cross-Reactions Among Strains of Cryptococcus and Other Antigens. E. E. Evans, L. J. Sorensen and K. W. Walls.—p. 287.
Studies on Nutrition of Brucella Melitensis. T. H. Sanders, K. Higuchi and C. R. Brewer.—p. 294.
Bacteriostatic, Bactericidal, and Drug Resistance Studies of Ethyl Gallate on Mycobacterium Tuberculosis. D. B. Johnstone and J. E. Little. —p. 320.
Influence of Glucose on Growth Factor Requirement of Mutant of Escherichia Coli. H. E. Umbarger.—p. 328.
Serological Relationships Between Shigella and Coliform Cultures. W. H. Ewing.—p. 333.
Amino Acid Requirements for Maturation of Bacteriophage in Lysogenic Escherichia Coli. J. S. Gots and G. R. Hunt Jr.—p. 353.
Electron Microscopy of Ultra-Thin Sections of Bacteria: I. Cellular Division in Bacillus Cereus. G. B. Chapman and J. Hillier.—p. 362.

Journal of International College of Surgeons, Chicago

20:259-392 (Sept.) 1953

Acute Mesenteric Vascular Occlusion Following Mumps. W. Elkan. —p. 259.
Surgical Management of Mucoceles of Frontal Sinus. M. J. Tamari and S. H. Bear.—p. 269.
Appendiceal Peritonitis. G. S. Serino.—p. 286.
Surgical Management of Hereditary Cataracts. W. B. Clark.—p. 295.
Diagnostic Importance of Nonfunctioning Kidney. J. A. Bowen.—p. 302.
Vaginal Hysterectomy: Its Place in Gynecologic Surgery: Report of 1,140 Cases from 1941 to 1950. V. P. Mazzola, N. J. Mazzola and F. V. Mitchell.—p. 309.
Massive Intestinal Resection with Survival. A. E. Pearce, J. H. Entine and F. C. Eksterowicz.—p. 322.
Neurovascular Mechanism of Gastric Ulcer Formation: Comparative Study. H. B. Benjamin.—p. 327.
Roentgen Diagnosis of Rupture of Spleen by Pneumoperitoneum. J. W. Birsner, A. Wallner and W. H. Leask.—p. 338.
Transabdominal Supplementary Spinal Anesthesia. J. I. Perl.—p. 343.
*Present Status of Tonsils and Adenoids in Relation to Poliomyelitis. M. B. Hayes.—p. 350.
Ruptured Interstitial Uterine Pregnancy with Cornual Rupture and Spontaneous Amputation of Fallopian Tube. J. Dissick.—p. 355.
Relative Value of Radiology in Prevention of Tuberculosis. J. F. Brailsford.—p. 360.
Obstruction and Volvulus of Small Intestine Caused by Ascaris. T. von Borries and D. Frisancho.—p. 368.

Tonsils and Adenoids in Relation to Poliomyelitis.—Hayes states that during the summer of 1952 Delaware County, Pa., had a rather severe epidemic of poliomyelitis, with 190 cases and 15 deaths reported in a population of about 430,000. This means that 1 out of every 2,300 persons, or 44 in 100,000, in Delaware County contracted poliomyelitis. In the city of Philadelphia, there were 181 reported cases, with eight deaths, in a population of approximately 2 million. From a survey of the 190 cases, in 161 of which check-ups were made, and from review of the literature, Hayes concludes that there is a predisposition of the patient who has just had a tonsillectomy to contract poliomyelitis and that the bulbar type is two to three times as likely to occur in such patients. He, therefore, will continue his present policy of refraining from performing tonsillectomy and adenoidectomy within two months of the poliomyelitis season. It has been confirmed by countless surveys that in this area the months of greatest incidence are August and September, but in the epidemic under consideration one-fifth of the patients were stricken in October. An observer at the Department of Public Health of the City of New York stated that the safest time for tonsillectomies and adenoidectomies, as far as poliomyelitis is concerned, is January, February, and March. The author also shows that there is great hope that in the near future immunologic means will become available, which will greatly advance the combat of poliomyelitis.

Journal Lab. and Clinical Medicine, St. Louis

42:335-498 (Sept.) 1953

Effect of Vitamin B_6 Deficiency Induced by Desoxypyridoxine in Human Beings. R. W. Vilter, J. F. Mueller, H. S. Glazer and others.—p. 335.
Radioactive Sodium Chromate for Study of Survival of Red Blood Cells: I. Effect of Radioactive Sodium Chromate on Red Cell. T. F. Necheles, I. M. Weinstein and G. V. LeRoy.—p. 358.
Id.: II. Rate of Hemolysis in Certain Hematologic Disorders. I. M. Weinstein and G. V. LeRoy.—p. 368.
Blood Isotope Levels Following Test Meal of I^{131}-Labeled Protein. A. B. Chinn, P. S. Lavik, L. I. Babb and others.—p. 377.
Severe Carbon Tetrachloride Poisoning with Recovery Followed by Fatal Homologous Serum Hepatitis. J. B. Johnson, P. Johnson, J. Eve and others.—p. 380.
Influence of Adrenocortical Stimulation on Antibody Production. L. B. van der Slikke and F. J. Keuning.—p. 389.
Endocrine Changes After Hemiadrenalectomy and Total Body Irradiation in Parabiotic Rats. S. C. Sommers.—p. 396.
Significance of Pulmonary Arterial Wedge Pressure. R. H. Wilson, W. T. McKenna, F. E. Johnson and others.—p. 408.
Penicillin G and Benzethacil by Mouth: Comparison of Penicillin Levels in Plasma of Normal Men After Single Oral Doses. S. S. Wright, E. M. Purcell, E. H. Kass and Maxwell Finland.—p. 417.
Comparison of in Vivo Sodium-Removing Activity of Various Types of Ion Exchange Resins in Rats. M. A. Root.—p. 430.
Studies on Coccidioides Immitis: Morphology and Sporulation Capacity of 47 Strains. L. Friedman, D. Pappagianis, R. J. Berman and C. E. Smith.—p. 438.
Human Esterases. G. Gomori.—p. 445.
Depression of Coproporphyrin Excretion by Amithiozone. L. Zieve and A. Falk.—p. 454.
Effects of Modified Human Globin in Human Subject. L. H. Kyle, W. C. Hess and W. P. Walsh.—p. 459.

Journal of Neurophysiology, Springfield, Ill.

16:451-564 (Sept.) 1953. **Partial Index**

Regulation of Posture in Intact and Decerebrate Cat: I. Cerebellum, Reticular Formation, Vestibular Nuclei. J. M. Sprague and W. W. Chambers.—p. 451.
Electrophysiological Determination of Tonotopic Organization in Auditory Cortex of Cat. J. E. Hind.—p. 475.
Sequence of Events in Optic Cortex Response to Volleys of Impulses in Radiation. G. H. Bishop and M. Clare.—p. 490.
Electrical Excitability of Human Uncus. M. Glusman, J. Ransohoff, J. L. Pool and N. Sloan.—p. 528.
Properties of Pyramidal Tract. P. O. Bishop, D. Jeremy and J. W. Lance.—p. 537.
Cerebellar Increase of Postural Tonus After Deafferentation and Labyrinthectomy. C. Terzuolo and H. Terzian.—p. 551.

Maryland State Medical Journal, Baltimore

2:483-526 (Sept.) 1953

Protean Clinical Features of Leptospirosis. T. E. Woodward and J. A. Hightower.—p. 486.
*Diagnosis and Treatment of Ringworm of Scalp. H. M. Robinson Jr. —p. 490.
Bone Bank. H. G. Reeves Jr. —p. 495.
Laboratory Tests in Common Endocrine Disorders. J. G. Wiswell.—p. 497.
Treatment of Benign Uterine Bleeding with Intra-Cavity Radiation. J. M. Hundley Jr., W. K. Diehl and T. Kardash.—p. 504.
Arthritis and Rheumatism. H. F. Klinefelter Jr.—p. 508.

Ringworm of the Scalp.—According to Robinson, tinea capitis is a benign but highly contagious disease that at the present time has reached epidemic proportions among school children, articularly in the eastern portion of the United States. Unfortunately, children who have this infection have been n to feel as outcasts in some schools, and a mental hazard been created. The physician who is charged with the sponsibility for the management of such a patient sh explain the nature of the disease to the parents as wel the type of treatment to be used and what may be expe of it. This is especially necessary in the event that epilation is to be used. All children who have tinea ca should be reported to the local health department, follow-up measures should be instituted to insure that remain under treatment until completion. School chil should be screened at periodic intervals, using the Wood l By this means infected children may be segregated referred to some proper treatment agency. The physician institutes treatment should insist on careful attention to pı health rules. To diminish the spread of the infection, chil should be warned not to exchange hats with other chil Barber shops should be made to abide by public health in the sterilization of all of their equipment, and chil attending movie houses should either wear hats or pla clean towel over the back of the seats. Immediately having a hair cut, the child should be taken home and g a thorough shampoo to wash out infected hair or spores.

Military Surgeon, Washington, D. C.

113:251-354 (Oct.) 1953

*Medical Survey of Atomic Bomb Casualties. R. Shirabe.—p. 251.
Professional Training. J. A. Curran.—p. 263.
Clinical Use of Trypsin. J. M. Miller, E. C. Peirce and B. H. W —p. 270.
Disaster Planning Activities in Panama. F. P. Kintz and R. G. Thom —p. 282.
Standard Order of Procedure of an Evacuation Hospital (Semi-Mol H. S. Reid.—p. 285.
Endemic Panmyelotoxicosis in Russian Grain Belt: Part Two: Bo Phytopathology, and Toxicology of Russian Cereal Food. C. F. M —p. 295.

Atomic Bomb Casualties.—This paper presents the obse tions of Japanese physicians on the atomic bomb casual of Nagasaki. There was an inverse relationship between mortality rate and the distance from the hypocenter of bomb explosion. Topography and structural shielding w determining factors in the mortality rate. Fatalities decrea greatly beyond the 1.5 km. zone. At this distance from hypocenter, wooden houses afforded some protection. D outs, although poorly constructed, were surprisingly effec in shielding the occupants. Within 1 km. of the hypocen the presence of thermal or mechanical injuries did not al the mortality rate, while beyond 1 km. the death rate highest in those persons who had received flash burns. Seven two per cent of the deaths reported from five hospitals curred in the first two week period, and the largest num of deaths on the 7th, 8th, 9th, and 10th days after explosion. Transportation over relatively great distan seemed to have deleterious effects. The survival of pers with burns was only slightly shorter than for those with ot external injuries, suggesting that radiation injury was a fac common to both. The incidence of flash burns was invers proportional to the amount of shielding; those persons concrete buildings had the lowest incidence and those in open the highest. Flash burns frequently involved extensi areas of the body, even at distances of 3 to 4 km. The was no significant difference in the extent of the burns betwe survivors and victims, again suggesting radiation injury as common factor. Persons who were inside of concrete wooden structures sustained more injuries than those wh were out in the open, the most frequent injury being fro flying glass. The symptoms of radiation sickness, such nausea, vomiting, diarrhea, fever, hemorrhage, epilation, an oropharyngeal lesions, are discussed in detail, particularl with regard to (*a*) distance from the hypocenter, (*b*) shielding and (*c*) time of onset. Hemorrhage and epilation are indexe of radiation injury.

New England Journal of Medicine, Boston

249:429-470 (Sept. 10) 1953

Some Surgical Problems Peculiar to the Tropics. B. Eiseman.—p. 429.
Leukemoid Blood Reactions. S. V. Hills and C. C. Shaw.—p. 434.
*Pathological Manifestations in an Infant After Maternal Rubella in Sixteenth Week of Gestation: Report of Case. C. G. Tedeschi, M. M. Helpern and T. H. Ingalls.—p. 439.
Incidence of Portal Cirrhosis and Fatty Metamorphosis in Patients Dying with Diabetes Mellitus. W. E. Jaques.—p. 442.
Present-Day Concepts of Shock. H. A. Frank.—p. 445.
Fetal Risks from Rubella During Pregnancy. T. H. Ingalls and N. Purshottam.—p. 454.

Pathological Manifestations in Infant After Maternal Rubella.—Tedeschi and associates review the literature on the malformations occurring in infants after a maternal attack of rubella and cite the case of a 35-year-old woman who contracted rubella during the 16th week of pregnancy. A baby boy was delivered by cesarean section, three weeks before term. The infant had cataractous changes in the periphery of the lens of the right eye and acute panophthalmitis, including vascular thrombosis and infiltration of polymorphonuclear leukocytes of the eosinophilic type. It is suggested that lens protein released during the embryonic period played the role of a sensitizing factor. Renal changes were found that were mainly characterized by fibrosis and hyaline degeneration of the tufts and capsuls of the glomeruli. The authors recall that renal changes were observed also by Swan and others in infants born of mothers who had had rubella during pregnancy. They feel that the renal findings in the cases of Swan and those in the case reported here show that congenital glomerulosclerosis can also be found in infants in association with other postrubella manifestations, but this does not necessarily indicate that the virus of rubella was the cause of the glomerular changes. They may be nonspecific, late manifestations of the widespread attack of the virus of rubella on the tissues of the embryo.

North Carolina Medical Journal, Winston-Salem

14:405-488 (Sept.) 1953

Rights and Responsibilities. F. Fremont-Smith.—p. 405.
New Approach to Planning for Public Health Care in North Carolina. C. G. Sheps.—p. 409.
Anticancer Drugs and Hormones as Adjuvants to Radiation Therapy of Cancer. J. R. Andrews and I. E. Shafer Jr.—p. 413.
Depressive and Anxiety Reactions Treated with Nicotinic Acid and Phenobarbital. L. J. Thompson and R. C. Proctor.—p. 420.
Review of Hypertrophic Pyloric Stenosis of Infancy with Emphasis on Possible Emotional Factors in Etiology. D. Powers.—p. 426.

Pediatrics, Springfield, Ill.

12:233-340 (Sept.) 1953

Corticosteroids and Antidiuretic Substance in Nephrotic Children. E. Galán, M. Pérez-Stable, O. García Faez and others.—p. 233.
Untoward Effects of Enemata in Çongenital Megacolon. M. R. Richards and R. B. Hiatt.—p. 253.
Possible Influence of Great Altitudes on Determination of Certain Cardiovascular Anomalies: Preliminary Report. V. Alzamora, A. Rotta, G. Battilana and others.—p. 259.
Some Effects of Exogenous Thyroid or Thyroxin upon Premature Infants. S. S. Stevenson, P. Wirth, R. Bastiani and T. S. Danowski.—p. 263.
Urinary Water Excretion and Neurohypophysial Function in Full Term and Premature Infants Shortly After Birth. R. G. Ames.—p. 272.
Congenital Lung Cysts in Infants. H. M. Albert and W. J. Potts.—p. 283.
*Radioiodine Uptake in Study of Different Types of Hypothyroidism in Childhood. S. H. Silverman and L. Wilkins.—p. 288.
Vestibular Responses to Rotation in Newborn Infant. M. M. Lawrence and C. R. Feind.—p. 300.
Role of Pulmonary Vascular Bed in Congenital Heart Disease. J. F. Dammann Jr. and W. H. Muller Jr.—p. 307.
*Hydrocephalus Treated by Arachnoid-Ureterostomy: Report of 50 Cases. D. D. Matson.—p. 326.

Radioiodine Uptake in Hypothyroidism.—Radioactive iodine (I^{131}), generally in doses of 1 μc per kilogram of body weight, was injected intravenously into a vein of the arm or leg of 20 children between the ages of 2 months and 15 years with definite clinical and biochemical signs of hypothyroidism. Counts were made with a Geiger-Müller counter centered over the neck just above the episternal notch and held in close proximity to, but not touching, the skin. Counts were taken similarly with the counter placed over the anterior thigh a short distance above the knee at a point where the circumference was approximately that of the neck. Counts were taken immediately after the injection of I^{131} and at intervals of 10 to 15 minutes during the first hour. They were then repeated hourly until the 14th to the 16th and again at 24 hours. With the method described small amounts of radioiodine uptake that were anticipated could be demonstrated. It was assumed that persistence of radioactivity over the neck for several days or longer after it could not be detected elsewhere in the body is evidence that some thyroid tissue is present. Of the 20 patients, 14 had congenital hypothyroidism present at birth or beginning in early months of life and 6 had acquired hypothyroidism. Eight of the 14 patients with congenital hypothyroidism showed no measurable uptake of I^{131}, 4 showed small uptakes amounting to a retention over the neck of 3 to 16 counts per second, and 2 had normal uptakes of 90 and 95 counts per second. These observations suggest that in congenital hypothyroidism resulting from defective development of the thyroid there are differences in the degree of the defect. In the eight patients in whom there was no uptake of I^{131} pronounced symptoms of typical cretinism were present from birth or the early months of life. In the four patients who showed a slight uptake of I^{131}, history indicated a somewhat slower, more insidious onset of symptoms even though appearing during the first year of life. Of the remaining two patients with definite hypothyroidism who showed a normal uptake of radioiodine, one had a thyroid gland of normal size and the other a moderately enlarged gland. They lived in regions in which there was no likelihood of deficient iodine intake. The uptake of radioiodine in five of the six patients with acquired hypothyroidism indicated that small amounts of thyroid tissue were present, despite of the fact that the gland could not be palpated. The thyroid glands of these patients, however, were apparently incapable of responding to stimulation with thyrotropic hormone. The sixth patient had no uptake of I^{131} on the first test, but after injection of thyrotropic hormone showed a normal uptake. The hypothyroidism was of much shorter duration in this patient than in any of the others with the acquired type. It is possible that in some of these other patients with hypothyroidism of longer duration the initial failure may have been due to deficiency of thyrotropic hormone and subsequently the thyroid gland may have atrophied to a degree when it was not longer capable of responding to stimulation.

Hydrocephalus Treated by Arachnoid-Ureterostomy.—Arachnoid-ureterostomy or diversion of spinal fluid under pressure from the lumbar subarachnoid space to the urinary tract was carried out in 50 infants most of whom were between 3 and 6 months of age. In all but three patients, the left kidney was removed through a standard subcostal incision. Through a separate midline incision the spine and lamina of the second lumbar vertebra were removed exposing an area of dura about 1.5 cm. in length. A short incision was made in the dura and a pin point hole was then made in the protruding arachnoid and a polyethylene tube inserted through it as spinal fluid poured forth. The tube was then tunnelled through the paraspinal muscles to the perinephric space and introduced into the ureter for 3 to 5 cm. Three or four sutures in the margin of its lumen were used to pull the ureter over the plastic tube and secure it firmly to the fascia of the paraspinal muscles. There was only one postoperative death; this occurred in an infant in extremely poor general condition who died of postoperative aspiration pneumonitis on the seventh postoperative day. Follow-up revealed that 33 of the 50 patients are still alive, and satisfactory to excellent results were obtained in 31. At least 24 of these children appear to be entirely asymptomatic with normal or close to normal mental and physical development after periods of from a few months to over four years. Only one patient is grossly retarded to the point of needing institutional care. Results indicated that immediate and continuous reduction of spinal fluid pressure to normal can be accomplished by diversion of cerebrospinal fluid into the urinary tract. The complications of this procedure are three: (1) mechanical obstruction of the shunt that was observed in only a few patients and was always remediable; (2) meningitis, which occurred in 8 of the 50 patients postoperatively and was fatal in three; and (3) acute dehydration secondary to intercurrent infection because of unreplaced loss of fluid and electrolytes through the shunt that was fatal in about 10 of these patients.

Physiological Reviews, Baltimore

33:445-630 (Oct.) 1953

Physiological Effects of Hyperventilation. E. B. Brown Jr.—p. 445.
Genetic, Traumatic and Environmental Factors in Etiology of Obesity. J. Mayer.—p. 472.

SYMPOSIUM ON METABOLIC SIGNIFICANCE OF B-VITAMINS

Summary of Known Metabolic Functions of Nicotinic Acid, Riboflavin and Vitamin B_6. E. E. Snell.—p. 509.
Metabolic Functions of Pantothenic Acid. G. D. Novelli.—p. 525.
Metabolic Functions of Thiamine and Lipoic Acid. L. J. Reed.—p. 544.
Metabolic Functions of Biotin. H. A. Lardy and R. Peanasky.—p. 560.
Action of Insulin Hypoglycemia on Motor and Secretory Functions of Digestive Tract. W. H. Bachrach.—p. 566.
Steroid Interaction in Metabolism of Reproductive Target Organs. S. Roberts and C. M. Szego.—p. 593.

Proc. Soc. Exper. Biol. & Med., Utica, N. Y.

83:655-898 (Aug.-Sept.) 1953. **Partial Index**

Egg Cultivated Tumor Protects Embryo Against Vaccinia Virus. A. Taylor and N. Carmichael.—p. 676.
*Effect of Fatigue on Susceptibility of Mice to Poliomyelitis. H. E. Rosenbaum and C. G. Harford.—p. 678.
Oral Administration of Co^{60} Vit. B_{12} in Tropical Sprue and Hepatic Cirrhosis and Diarrhea. L. M. Meyer, R. M. Suarez Jr., R. Buso and others.—p. 681.
Accentuation of Human Diabetes by "Pituitary Growth Hormone." L. W. Kinsell, H. E. Balch and G. D. Michaels.—p. 683.
Antigenic Dissimilarity of Streptokinases. L. Weinstein.—p. 689.
Relationship Between Human Seminal Fluid and Fibrinolytic System. K. N. von Kaulla and L. B. Shettles.—p. 692.
Further Modification of Mouse Adapted Type III Poliomyelitis Virus. C. P. Li and M. Schaeffer.—p. 706.
Use of Baby Chicks for Isolation of Leptospires. W. G. Hoag, W. S. Gochenour Jr. and R. H. Yager.—p. 712.
Electrolyte and Water Responses of Normal Subjects During Cortisone Administration. H. J. Kowalski, W. E. Reynolds and D. D. Rutstein. —p. 795.
Effect of Cortisone upon Formation of Liver Glycogen from Glycine. W. C. Hess and I. P. Shaffran.—p. 804.
Immobilization of Endamoeba Histolytica in Vitro by Antiserum Produced in Rabbit. B. A. Cole and J. F. Kent.—p. 811.
Tetracaine Flare: Differences in Actions of Procaine and Tetracaine on Peripheral Nerve. R. R. Sonnenschein.—p. 831.
Experimental Production of Struma Lymphomatosa. H. J. Clausen. —p. 835.
Effects of Pressor and Depressor Agents on Pulmonary and Systemic Pressures of Normotensives and Hypertensives. S. Forman, L. G. May, A. Bennett and others.—p. 847.
Thromboplastinase, a New Enzyme Which Destroys Thromboplastin. S. Gollub, D. Feldman, D. C. Schechter and others.—p. 858.
Development of Antibodies in Children Convalescent from Whooping Cough. J. L. Winter.—p. 866.
Estimation of Total Body Chloride in Young Infants by Radiobromide Dilution. G. B. Forbes, A. Reid, J. Bondurant and J. Etheridge. —p. 871.
Dextran, an Antigen in Man. P. H. Maurer.—p. 879.

Fatigue and Poliomyelitis in Mice.—In order to determine the effect of fatigue on susceptibility to experimental poliomyelitis, mice were forced to run in a revolving drum during the day preceding and for eight hours each day after the intracerebral injection of the Lansing strain of virus. Control animals inoculated at the same time with the same amount of virus were allowed to rest in their cages. In all experiments, the incidence of the disease as measured both by paralysis and by death was greater in the exercised animals than in the resting controls.

Psychiatry, Washington, D. C.

16:215-312 (Aug.) 1953. **Partial Index**

Synopsis of Theory of Human Communication. J. Ruesch.—p. 215.
Selected Problems in Supervised Analysis. N. W. Ackerman.—p. 283.

Psychoanalytic Quarterly, Albany, N. Y.

22:321-474 (July) 1953. **Partial Index**

The Schreber Case: Contribution to Schizophrenia, Hypochondria, and Psychosomatic Symptom-Formation. I. Macalpine and R. A. Hunter. —p. 328.
eterrent in Study and Practice of Medicine. I. P. Glauber.—p. 381.

Quarterly J. Studies Alcohol, New Haven

14:363-524 (Sept.) 1953

Influence of Ethyl Alcohol on Spontaneous Electrical Activity of Cerebral Cortex and Subcortical Structures of Cat. W. J. Horsey and K. Akert. —p. 363.
Effect of Caloric Restriction and Thiamin Deficiency on Voluntary Consumption of Alcohol by Rats. W. W. Westerfield and J. Lawrow. —p. 378.
Effect of Alcohol on Audiogenic Seizures of Rats. L. A. Greenberg and D. Lester.—p. 385.
Effects of Alcohol on Seizure Behavior in Rats. W. N. Dember, P. Ellen and A. B. Kristofferson.—p. 390.
Further Observations on Use of Wine and Other Alcoholic Beverages by Italians and Americans of Italian Extraction. G. Lolli, E. Serianni, G. Golder, C. Balboni and A. Mariani.—p. 395.
*Five Years' Experience with Disulfiram in Treatment of Alcoholics. O. Martensen-Larsen.—p. 406.
Active Therapeutic Method of Interrupting Dependency Relationship of Certain Male Alcoholics. D. J. Myerson.—p. 419.
Exploratory Approach in Group Counseling with Male Alcoholic Inmates in a City Jail. A. Lerner.—p. 427.
The Skid Road Alcoholic. J. K. Jackson and R. Connor.—p. 468.

Five Years' Experience with Disulfiram.—Disulfiram (Antabuse) has proved excellent in the treatment of more than 2,000 alcoholic patients seen in the past five years in Copenhagen, Denmark. Proper administration of the drug will keep undesirable side-effects to a minimum. Of the many contraindications for use presented in the past, the only one remaining is marked cardiac decompensation. Disulfiram therapy is carefully planned to suit the physical and mental needs of each patient. Its ancillary methods include individual and group psychotherapy, alcoholics' club activities, and relaxation therapy. The drug may be given to sober patients on the first visit to the clinic and to intoxicated patients in a reduced dosage combined with an antihistaminic such as Promethazine (10-[2-dimethylamino-1-propyl]phenothiazine) and sodium chloride. This combination prevents nausea and vomiting while providing sufficient sedation. Furthermore, the symptoms of hangover and the craving for alcohol are considerably reduced, if not abolished, during the period immediately following. Patients with a low hyperactivity limen or a low amnesia limen should receive smaller doses from the beginning of treatment. When a well-adjusted maintenance dose of disulfiram is established, patients may ingest about 6 cc. of absolute alcohol and only a slight sensation of heat, redness, and acceleration of the pulse will result. The patient is told to moderate his drinking but total abstinence is not prescribed. It must be emphasized that disulfiram must never be given without the patient's knowledge and cooperation. The patient is carefully watched, especially during the first three months of treatment because the following effects of the drug are apt to increase during this period: fatigue during the daytime, sleepiness in the morning, headache and dizziness, reduced vitality and impaired memory, reduced libido and impaired potency, gastrointestinal disturbances, halitosis or metallic taste, shortness of breath, muscular sensations, and allergic skin phenomena. These symptoms are rarely persistent, and they can be easily controlled by reducing the dosage of disulfiram.

Tennessee State Medical Assn. Journal, Nashville

46:313-356 (Sept.) 1953

SYMPOSIUM ON GERIATRIC CARE

Management of Some Medical Conditions Associated with Aging. F. E. Cowden.—p. 313.
Dermatologic Problems of Geriatric Patients. R. C. Thompson.—p. 316.
Psychiatric Aspects of Geriatric Care. W. H. Boswell.—p. 319.
Management of the Aged Surgical Patient. B. F. Byrd Jr.—p. 321.
Surgical Treatment of Meniere's Syndrome. W. G. Kennon Jr.—p. 326.

Wisconsin Medical Journal, Madison

52:479-540 (Sept.) 1953

Fetal Salvage in Fatal Case of Maternal Cerebral Hemorrhage Comp cating Pregnancy. D. D. Hassett.—p. 479.
Recognizing Emotional Problems in Adolescent Girls. C. L. Klin —p. 482.
Dangers of Codeine Overdosage in Children. M. J. Fox and E. Jochim sen.—p. 487.

FOREIGN

Acta Chirurgica Scandinavica, Stockholm

105:395-486 (No. 6) 1953. Partial Index

Vesical Neck Obstruction in Children. M. Andreassen.—p. 398.
Bladder Hernia: Survey and Case Report. S. Kollberg.—p. 407.
Hypospadias: 34 Completed Cases Operated on According to Denis Browne. P. Fogh-Andersen.—p. 414.
Sequelae of Gastrectomy. K. Boman.—p. 424.
Gastric Ulcer High on Lesser Curvature. O. Mikkelsen and H. H. Wandall.—p. 430.
*Congenital Absence of the Gallbladder: Report of Case Diagnosed at Operative Cholangiography. L. Malmström.—p. 440.

Congenital Absence of the Gallbladder.—Congenital absence of the gallbladder in a 62-year-old man was detected with the aid of cholangiography performed in the course of surgical intervention for dyspeptic symptoms and pain under the right costal arch radiating back and up to the right shoulder. Occasionally the patient had painful attacks of the type produced by cholelithiasis. He could not tolerate fat. Roentgenographic examination of the stomach and colon showed no signs of an abnormal condition. No filling was obtained by cholecystography. At operation, abundant adhesions made it difficult to approach the gallbladder. No well-defined gallbladder but a viscus-like formation was observed in this area. Cholangiography revealed that this viscus-like formation was a dilated and tortuous common bile duct united with a dilated hepatic duct. There was no gallbladder and no cystic duct, and no stones were detected. When reexamined four months after the operation, the patient still complained of persistent abdominal pains and reported that he occasionally had jaundice. Observations made in this case and cumulated evidence by other workers suggest the following conclusions: (1) operative cholangiography is the only reliable method for the establishment of a diagnosis of congenital absence of the gallbladder; (2) operative cholangiography is the only method available for excluding the presence of an intrahepatic gallbladder or remains of a gallbladder shrunken by cholecystitis; (3) the extrahepatic ducts should be drained for a long time after operation in cases of agenesis of the gallbladder causing severe symptoms; (4) agenesis of the gallbladder is often associated with adhesions in the upper part of the abdomen.

Australian J. Exper. Biol. and M. Science, Adelaide

31:193-290 (June) 1953. Partial Index

Effect of Diaphragmatic Movement on Absorption of Protein and of Red Cells from Pleural Cavity. F. C. Courtice and B. Morris.—p. 227.
Thermal Destruction of Vitamin B_1: Studies with Aneurin Mononitrate. K. T. H. Farrer.—p. 247.
Viscometric Behaviour of Mucoprotein Isolated from Human Urine. C. C. Curtain.—p. 255.
*Effect of D.O.C.A. on Diabetic Ketosis. S. Rose.—p. 273.
Determination of Blood Sugar with Anthrone. S. J. Prokhovnik and J. F. Nelson.—p. 279.
Influence of Steroids on Carcinogenic Action of 2-Acetylaminofluorene. G. Read and V. J. McGovern.—p. 283.

Effect of Desoxycorticosterone Acetate on Diabetic Ketosis.—It has been suggested that part of the insulin resistance and aggravation of the diabetic state that occurs during diabetic ketosis is related to the overactive adrenal cortex with consequent overproduction of 11, 17-oxysteroids. Since prolonged administration of desoxycorticosterone acetate (DOCA) can cause adrenocortical atrophy, experiments were made to evaluate the depressing effect of desoxycorticosterone acetate on the increased adrenocortical activity that occurs during diabetic ketosis. Adult male rats were made diabetic by the intravenous administration of alloxan (2,4,5,6-tetraoxohexahydropyrimidine). They were then placed in separate cages and fed on a relatively constant diet. All animals were tested for diabetes by the determination of blood sugar, and qualitative tests for glycosuria and urinary ketosis were also carried out. The diabetic animals were divided into three groups. The first group received no special treatment, and glycosuria and high blood sugar levels developed. The second group was controlled as well as possible with protamine zinc insulin. The insulin injections were begun 24 hours after alloxan was administered. These rats did not develop ketosis although some did show a moderate to severe glycosuria and a rather high blood sugar. The third group of diabetic rats received by subcutaneous injection 2 mg. of desoxycorticosterone acetate in 0.2 ml. of oil per day. (All other rats received similar injections of 0.2 ml. of oil per day as a control procedure.) The desoxycorticosterone acetate and oil injections were begun 24 hours after alloxan was administered. It was found that in rats with uncontrolled alloxan diabetes and ketosis, there was a marked increase in adrenocortical activity. Desoxycorticosterone acetate partially suppresses this increased adrenal activity but not to the same extent as insulin does. Desoxycorticosterone acetate administration to diabetic, ketotic rats causes a fall in blood sugar, which may be related to the partial suppression of adrenal activity and consequent decline in production of 11, 17-oxysteroids.

British Journal of Dermatology, London

65:293-336 (Sept.) 1953

Pityriasis Lichenoides and Parapsoriasis. J. T. Ingram.—p. 293.
Skin Disease in British Army in S.E. Asia: II. Tinea Corporis: Clinical and Pathological Aspects, with Particular Reference to Relationship Between T. Interdigitale and T. Mentagrophytes. P. H. Sanderson and J. C. Sloper.—p. 300.
Isonicotinic Acid Hydrazide in Treatment of Cutaneous Tuberculosis: Preliminary Report. A. N. Chakraborty, A. K. Banerjee and S. Ghosh. —p. 310.

British Medical Journal, London

2:635-682 (Sept. 19) 1953

Almroth Wright—Pioneer in Immunology. L. Colebrook.—p. 635.
*Serum Vitamin B_{12} Concentrations of Patients with Megaloblastic Anaemia After Treatment with Vitamin B_{12}, Folic Acid, or Folinic Acid. D. L. Mollin and G. I. M. Ross.—p. 640.
*Vitamin B_{12} in Nutritional Macrocytic Anaemia. C. R. Das Gupta, J. B. Chatterjea and P. Basu.—p. 645.
Nature and Treatment of Plummer-Vinson Dysphagia. J. A. W. Bingham and J. S. Logan.—p. 650.
Anti-Sialogogue and Other Effects of Atropine Mucate. W. W. Mushin, S. Galloon and E. Lewis-Faning.—p. 652.
A.C.T.H. and Cortisone in Idiopathic Thrombocytopenic and Schönlein-Henoch (Allergic) Purpura. D. G. Adamson, W. Walker and A. E. Macintosh.—p. 656.
Polyarteritis Nodosa Treated with A.C.T.H.: Report of Case, with Recovery. J. H. Simpson, M. Hall and B. Morgan.—p. 659.
Composition of Articular Cartilage in Osteoarthritis: Changes in Collagen/Chondroitin-Sulphate Ratio. B. F. Matthews.—p. 660.

Serum Vitamin B_{12} Concentration of Patients with Megaloblastic Anemia.—Early studies showed the mean serum vitamin B_{12} concentration of normal subjects was about 320 micromicrograms per milliliter; the lower limit in normal subjects was about 100 micromicrograms per milliliter. The serum concentrations of patients with untreated pernicious anemia were low; the mean concentration was less than 40 micromicrograms per milliliter. Intramuscular injections of vitamin B_{12} produced a rise in the vitamin concentrations in the serum of patients with pernicious anemia from the low pretreatment levels to levels equal to or above normal. The duration of normal serum vitamin B_{12} levels and normoblastic hemopoiesis following single intramuscular injections of vitamin B_{12} in patients with pernicious anemia, which has a direct bearing on the treatment of this condition, was studied in 33 patients in relapse. The serum vitamin B_{12} concentrations of these patients rose from low pretreatment levels to normal after single intramuscular injections of from 20 to 1,000 mcg. of B_{12} and remained within the normal range for periods of from 2 to 98 days. The mean concentration in all the patients in each treatment group, however, although remaining within the normal range, fell below the mean concentration found in normal subjects within a few days after the injections. Hemopoiesis was normoblastic when the serum vitamin B_{12} concentrations were normal; when the concentrations were below normal megaloblasts reappeared in the marrow. Intramuscular injections of 40 mcg. of vitamin B_{12} every 10 days, or of 160 mcg. every 21 days, maintained the normal serum vitamin B_{12} level of most patients. These doses seem to be the minimum required for the treatment of patients with pernicious anemia in relapse. Much larger doses, up to 5 mg., should be given in the first week or two not only to [illegible] ly enough vitamin B_{12} for hemopoiesis, but also to replenish the greatly depleted tissue reserves. The serum vitamin B_{12} concentrations of a smaller group of patients with various megaloblastic anemias were not altered by treatment with folic acid or folinic acid. The amount of folic acid or folinic acid available for hemopoiesis, however, affects the relation between the serum vitamin B_{12} level and the type of hemopoiesis. The serum vitamin B_{12} levels remained low in patients with pernicious anemia in relapse, though hemopoiesis in their marrow rapidly became normoblastic while they were being treated with folic acid or folinic acid. The amount of vitamin C available may also be an important factor in the relation between the serum vitamin B_{12} levels and the type of hemopoiesis.

Vitamin B_{12} in Nutritional Macrocytic Anemia.—Vitamin B_{12} was given to 22 Indian patients with nutritional macrocytic anemia for the purpose of ascertaining its value in the treatment of that condition and incidentally of comparing its hematinic efficiency with that of folic acid and/or liver extract. Initial improvement was good in 14 patients, but the improvement was sustained and reached normal in only 5 patients treated with vitamin B_{12} alone. Folic acid was given after vitamin B_{12} in 14 cases with good response in 8, but again normal was attained in only 4. Crude liver extract was given to eight patients in whom the blood level had failed to reach normal after vitamin B_{12} and folic acid. In all but one the blood level then became normal. Indications are that both folic acid and vitamin B_{12} are valuable agents in the treatment of nutritional macrocytic anemia, which apparently represents deficiency of both these elements. Deficiency of folic acid is probably the primary and major factor, while that of vitamin B_{12} is probably the secondary factor in most cases. Patients with nutritional macrocytic anemia in different parts of the world may vary in their degree of deficiency of vitamin B_{12} and folic acid as a result of dietary differences. The response to therapy depends on both the absolute and the relative deficiencies of these factors, and this may account for the differences in response obtained by workers in various regions.

Canadian Medical Association Journal, Montreal

69:97-196 (Aug.) 1953

Occlusive Dressing Versus Exposure Method in Treatment of Thermal Burns. H. Baxter, R. G. Randall and K. K. Kapur.—p. 97.
Tularaemia in Northwestern Ontario. J. Millar.—p. 102.
Intramuscular Aqueous Heparin. E. R. Gubbay and E. Pash.—p. 105.
Physiological Factors Underlying Therapeutic Success in Mental Disorders. J. W. L. Doust.—p. 108.
Common Benign Mesenchymal Tumours of Stomach. J. D. Palmer and S. J. Martin.—p. 115.
Serological Pattern of Influenza Virus Strains Isolated in Canada from 1948 to 1951. G. Dempster and B. Buchner.—p. 119.
Malignant Tumours of Testicle. C. C. Higgins and F. W. Arber.—p. 124.
Lumbar or Spinal Anaesthesia in General Practice. R. J. Fraser.—p. 132.
Epidemic Keratoconjunctivitis. M. F. McGavin, J. P. Boley and H. L. Ormsby.—p. 137.
Middlebrook-Dubos Haemagglutination Reaction in Diagnosis and Progress of Tuberculosis. S. Nommik and J. F. Meakins.—p. 140.
*Porphyria in Surgery. A. J. Kergin.—p. 146.
Phenylindanedione: Useful Anticoagulant. S. R. Townsend, K. J. Fay, J. R. Downing and others.—p. 149.
*Pneumothorax-Pneumoperitoneum? T. G. Heaton.—p. 151.

Porphyria in Surgery.—The occurrence of acute intermittent porphyria is reported in three surgical patients, one man aged 49 and two women aged 25 and 49, all of whom complained of severe abdominal pain and vomiting. The man had complained of acute attacks of abdominal pain for many years, and during one of these his appendix had been removed. He had been admitted to hospital frequently, and on the last admission his urine was tested for porphobilinogen and was found strongly positive. Further investigation demonstrated a pronounced impairment of liver function. The patient died, and necropsy revealed portal cirrhosis with massive ascites. For eight years during which the patient was supervised, he did not show evidence of impaired liver function. The conclusion was that the initial metabolic upset was acute intermittent porphyria and that the liver disease was secondary to his poor nutrition, to his high alcoholic intake, and to the ic effect of abnormal porphyrins. The younger woman exemplified the full-blown history of acute intermittent p phyria, a chronic illness featured by psychotic, gastrointestin and neurological symptoms, proceeding to inevitable dea In retrospect, it seems certain that she had an organic d denal obstruction that required surgical intervention. It see just as certain that the operative trauma elicited or contribu to a fulminating episode of neurological involvement. T other woman had undergone a gynecologic operation and hemorrhoidectomy that quite possibly were related to sym toms arising from porphyria. It is not suggested that pers suffering from porphyria could not have other organic disea The likelihood, however, that porphyria is the basis of symptoms, is overwhelming from the evidence presented these three patients and by others reported on in the literatu The typical patient with porphyria is a woman of early mid age, with a symptom complex of acute abdominal or neu logical disease, often without signs or laboratory and roent evidence to support an organic basis. A family and perso history of discord and mental upset is still more suggesti Psychotic behavior with hallucinosis is commonly seen. history of having passed dark or port wine urine and the fi ing of apparent urobilinogen on routine urinalysis make ten tive diagnosis possible. The specific test for porphobilino is then mandatory. The extreme probability of fulmination the acute episode following an operation must always remembered.

Pneumothorax-Pneumoperitoneum?—Of 275 patients, most them men between the ages of 20 and 40, with pulmona tuberculosis in whom 292 pneumothoraxes were induced, (21%) had minimal disease, 140 (51%) moderately advanc disease, and 77 (28%) advanced disease. Additional metho of collapse therapy were employed in 149 patients (54% The patients were followed up for 3 to 10 years. The resu of treatment on the basis of five year survival were co pared with those of treatment by bed rest alone derived fr the literature of past years in which collapse therapy w little used. A mortality rate of 2% among the author's patie with minimal disease and one of 8% among those with mo erately advanced disease are contrasted with a mortality ra of 23% and 53% respectively among the patients treated bed rest alone. The mortality rate in the entire series of 2 patients was 11%; the survival over five years of 89% the author's patients is considered very satisfactory. The i cidence of empyema among the author's patients was 6.2 as compared with an incidence of 12.6% among a large nu ber of patients with therapeutic pneumothorax collected fro the literature. This considerably reduced incidence of empye may have been obtained by observing certain precautions the selection of patients for pneumothorax and in their ma agement, which were not usually observed by the oth workers. The mortality from empyema in the author's patien was 37.5% as compared to 45% in those reported by oth workers. The mortality of 37.5% from empyema was onl 2.3% among all of the pneumothoraxes induced by the autho If all cases of empyema had been avoided and all these live saved by avoiding pneumothorax entirely, only 2.3% woul have been saved. The method of collapse used instead o "primary pneumothorax" in order to save this 2.3% would hav to at least equal pneumothorax in effectiveness and to hav no intrinsic mortality on its own. A survey of 2,646 cases o pneumoperitoneum collected from the literature showed tha this method of collapse was not free of mortality, whic might be as much as 1% over a five year period. Comparison of the effectiveness of pneumothorax with that of pneumoperitoneum as collapse measures was attempted by a stud from the literature of sputum conversion and cavity closure Pneumothorax gave superior results by a substantial margin although it appeared that more patients with advanced disease had been subjected to pneumothorax than to peritoneum. It is concluded that pneumothorax is, as a means of collapse, superior to pneumoperitoneum; with all its disadvantages pneumothorax as the primary procedure is still to be preferred for collapse therapy of most patients requiring such therapy provided that experienced surgeons are available who are willing to observe the author's precautions in the selection and management of the pneumothorax patients.

Clinical Science, London

12:223-316 (No. 3) 1953. Partial Index

Observations on Faecal Excretion of Total Solids, Nitrogen, Sodium, Potassium, Water and Fat in Steatorrhoea Syndrome. W. T. Cooke, G. Thomas, D. Mangall and H. Cross.—p. 223.
*Early Effects of Radioiodine on Human Thyroid Function. N. B. Myant.—p. 235.
Pain Threshold in Nerve Blocks. J. Marshall.—p. 247.
Vascular Responses in Patients with High Serum Titres of Cold Agglutinins. R. J. Marshall, J. T. Shepherd and I. D. Thompson.—p. 255.
Assay of Thyrotrophic Hormone by Discharge of I^{131} from Thyroid of Day-Old Chicks. I. C. Gilliland and J. I. Strudwick.—p. 265.
Studies on Peripheral Circulation in Osteitis Deformans. O. G. Edholm and S. Howarth.—p. 277.
Clearing by Heparin of Alimentary Lipaemia in Coronary Artery Disease. M. F. Oliver and G. S. Boyd.—p. 293.
Liver Blood Flow and General Anaesthesia. R. Shackman, I. G. Graber and D. G. Melrose.—p. 307.

Effects of Radioiodine on Thyroid Function.—Myant says that although radioiodine has been used widely in thyrotoxicosis, little attention has been paid to the earliest changes in thyroid function. It is not known, for example, how soon the earliest effects can be detected, which of the various functions of the thyroid is first affected, or whether the first detectable changes are reversible. In the investigations reported here, an attempt was made to answer these questions by examination of four thyrotoxic patients selected for treatment with I^{131}. Serial radioiodine tests were made on these patients. At an early stage in the course of the treatment, both the uptake and secretion of radioiodine by the thyroid appeared to be inhibited. In one patient, the evidence suggests that the mechanism concerned in the secretion of hormone was more radiosensitive than that responsible for iodine uptake. In two patients there was partial recovery of thyroid function after an initial depression, while the treatment was still being continued and before there was evidence of clinical improvement. Then, when further therapeutic doses were given, thyroid function was again depressed and a clinical remission resulted. The total radiation dosage at which a depression of thyroid function could just be detected varied from about 500 to 10,300 roentgen equivalents in the four patients.

Glasgow Medical Journal

34:329-368 (Aug.) 1953

Consumption of Some Components Involved in Physiological Blood Coagulation. A. S. Douglas and R. Biggs.—p. 329.
Scottish Study of Persons Registered as Disabled Under Disabled Persons. (Employment) Act, 1944. T. Ferguson and A. N. Macphail.—p. 343.
Labour Following Caesarean Section. D. F. Bruce.—p. 354.

Journal of Forensic Medicine, Cape Town

1:1-64 (July-Sept.) 1953. Partial Index

Blood Groups and Skin Colour: Their Genetics in Human Anthropology. M. Shapiro.—p. 2.
Sudden or Unexpected Deaths in Infancy. K. M. Bowden.—p. 19.
Possible Neurological Mechanisms Responsible for Sudden Death with Minimal Anatomical Findings. L. Adelson.—p. 39.
Estimation of Stature from Long Bones: Discussion of Its Reliability. E. N. Keen.—p. 46.
Estimation of Age from Cranial Suture Closure: Report on Its Unreliability. R. Singer.—p. 52.

Journal of Laryngology and Otology, London

67:497-580 (Sept.) 1953

Observations on Pathology of Otosclerosis. R. F. Ogilvie and I. S. Hall.—p. 497.
Occupational Deafness Including Some Remarks on Auditory Fatigue and Adaptation. B. Larsen.—p. 536.
Incidence of Chronic Infection of Maxillary Sinus in Children. S. Mawson and J. D. Gray.—p. 556.
Functional Problems Connected with Bilateral Radical Neck Dissection. E. Bocca.—p. 567.

Journal of Tropical Medicine and Hygiene, London

56:199-224 (Sept.) 1953

Diffuse Scleroderma in an African Male. M. Gelfand.—p. 199.
Relative Pyrimethamine Insensitivity in Case of Falciparum Malaria in Jamaica. D. B. Jelliffe.—p. 201.
Escherichia Colofoetida Castellani: Brief Note on Its Systemic Position. U. Berger.—p. 202.

Lancet, London

2:525-578 (Sept. 12) 1953

Reticuloses: Clinicopathological Study. M. C. G. Israëls.—p. 525.
Clinical Tests for Liability to Postprandial Attacks of Palpitation and Weakness After Gastric Operation. W. H. Smith, R. Fraser, K. Stayner and J. M. Willcox.—p. 530.
*Bacteriology of Chronic Bronchitis. J. R. May.—p. 534.
Liquefaction of Sputum for Bacteriological Examination. G. A. Rawlins.—p. 538.
Effect of Emotion on Renal Function in Normotensive and Hypertensive Women. B. E. Miles and H. E. De Wardener.—p. 539.
Traumatic Rupture of Normal Spleen in Children. H. W. T. Pender.—p. 544.
Traumatic Rupture of Spleen. R. K. Wilson.—p. 545.

Bacteriology of Chronic Bronchitis.—A preliminary communication in May, 1952, showed that some organisms are distributed quite irregularly throughout the sputum of patients with bronchitis. In this paper the author describes the technique used in investigations on 54 outpatients and 14 inpatients with chronic bronchitis. A single culture from a specimen of sputum often fails to reveal all the species of bacteria present, even though the culture is made from a purulent part. A "specimen" of sputum, as used in this investigation, is defined as a portion of sputum expectorated by one bout of coughing only. Each specimen was expectorated into a sterile screw cap "universal container," to which was added about five times as much isotonic sodium chloride solution. The sputum was rinsed in the solution before being transferred to a sterile Petri dish. This dish was laid on a ruled grid of numbered squares. From a table of random numbers the first five numbers were selected that corresponded to numbers on the grid covered by the sputum. These indicated the sites from which cultures were to be made. Care was taken that the wire loop was not simply dipped into the sputum and withdrawn. The loop was used to extract a portion of sputum, which was then transferred to the side of the culture medium, where it was broken up before being spread over the plate. Each of the five cultures made from a specimen of sputum was subjected to "differential colony counting." The author feels that this technique of taking five cultures from one specimen is not practicable in a routine laboratory, and a method is required for liquefying the sputum without interfering with the viability of the organism. In this way a homogenous suspension could be prepared from which only one culture would reveal all the species of bacteria present. Such a method has now been developed by Rawlins. In some patients more than one specimen of sputum was required to reveal a "pathogen." Each of the 14 inpatients was producing consistently purulent or mucopurulent sputum. In 11 cases a "pathogen" was revealed in the first specimen: in 2 cases "pathogens" were found in the next specimen: and in the remaining case a "pathogen" (pneumococcus) was found only in the sixth specimen examined. Thus at least two and preferably more specimens should be examined. There is a significant association between pus in the sputum and the presence of potential pathogens, especially the pneumococcus and Hemophilus influenzae. Organisms of doubtful pathogenicity, such as Micrococcus (Streptococcus) viridans, nonhemolytic micrococci, and Neisseria catarrhalis, are not related to pus in the sputum.

Maandschrift voor Kindergeneeskunde, Leyden

21:249-280 (Aug.) 1953. Partial Index

Eosinophilic Granuloma or Hand-Schüller-Christian Disease? J. L. Keyzer and A. van der Velde.—p. 249.
*Occurrence and Treatment of Migraine in Children. J. C. de Wit.—p. 259.

Migraine in Children.—In the first part of this report de Wit is concerned with 74 children who had periodic attacks of headache and a history of one or several of the following factors: concussion of the brain, nasal adenoids, disorders of the nasal sinuses, visual defects, and allergic manifestations. Fifteen of these 74 children had family histories of migraine, and 6 of these 15 had allergic disorders. This incidence of allergy is not much higher than what can be expected in the absence of a family history of migraine. Gastrointestinal symptoms, with or without headaches, were observed in 4 the 15 children with a family history of migraine, and all 4 belonged to the allergic group. In the second part of this paper the author reports observations on 60 children belonging to 26 families with a history of migraine. Fifteen of these children had attacks of migraine before the age of puberty, but only 5 of these 15 retained their migraine attacks during puberty. Eight of the 45 children, who had been free from migraine during childhood, had their first attacks of migraine during puberty. Generally the attacks of migraine were the severer and more frequent, if the onset had been early. Prepuberal migraine occurred with the same frequency in both sexes, whereas more girls than boys had attacks of migraine during and following puberty. All children who had migraine attacks before puberty had a family history of migraine. Allergy does not play an important part in prepuberal migraine; the attacks differ from those in adults only by their greater frequency. Treatment with antihistamines proved most effective in children with migraine, and it appeared that the sedative effect of some of these drugs was not the decisive therapeutic factor. Early treatment is important.

Medical Journal of Australia, Sydney

2:161-196 (Aug. 1) 1953

Naval Aviation Medicine. R. M. Coplans.—p. 161.
Acute Infections of Fingers and Hand. T. J. Claffey and N. C. Newton.—p. 164.
Cardiac Arrest as Surgical Emergency. I. Monk.—p. 169.
*Porphyrinuria in Persons Exposed to Lead Hazards. D. O. Shiels, G. R. Palmer, P. E. Cornish and E. J. Kearley.—p. 171.
Thyroidectomy Follow-Up. O. B. Tofler.—p. 176.

Porphyrinuria in Exposure to Lead.—During the last two and a half years it has been the practice of Shiels and associates to determine the coproporphyrin content of all specimens of urine examined for lead in an attempt to assess the value of this very rapid test as an aid in the prevention and diagnosis of lead poisoning. The results of the examination of 279 specimens of urine from persons who had had various degrees of exposure are presented. There was a close correlation between the mean values of lead and of coproporphyrin in urine. Similar though not so close correlation existed between the stippled blood cell counts and the coproporphyrin content of the urine. The authors feel that from the point of view of routine control of employees exposed to lead hazards, the determination of the urinary coproporphyrin content has certain advantages over other tests, especially when a large number of persons have to be studied. The test can be performed in about 10 minutes, whereas urinary lead determinations may take several hours. Although a stippled blood cell count can be carried out in about 10 minutes for the actual count, the performance of a large number of these is tedious, and the preparation of slides, making of films, fixing and staining, washing and drying consume considerable time. One advantage of the stippled blood cell count is that the film provides a more or less permanent record. Whereas urine may be accidentally or purposely contaminated with lead, contamination with porphyrin is not likely, since only a very skilled person could accomplish this, without it being detected. The determination of coproporphyrin in urine is also helpful in establishing contamination with lead. In a case in point a high urinary lead value was obtained (0.6 mg. per liter) in a sample of urine. The coproporphyrin content was also high (0.7 mg. per liter), indicating that the patient had had considerable absorption of lead. The porphyrin in the urine is not stable under the influence of light, and hence the determination must be carried out shortly after the urine has been collected and on samples kept in amber-colored bottles and/or in the dark. The concentrations of coproporphyrin in the urine are not quite so closely related to the clinical conditions as are the stippled blood cell counts. It has also been pointed out that abnormal amounts of coproporphyrin in the urine indicate damage to the organism, whereas abnormal amounts of lead do not. Experience with over 2,000 analyses for lead in urine has indicated, however, that abnormally high values in the great majority of cases indicate damage to the organism. In the diagnosis of doubtful ses of lead poisoning stippled blood cell counts and the determination of lead in urine or blood should not be neglected, but rather should be combined with the coproporphyrin determination in the urine. Furthermore, the ratio of monocytes plus large lymphocytes to small lymphocytes should also be ascertained.

Minerva Chirurgica, Turin

8:515-558 (June 30) 1953. Partial Index

*Retrosternal Esophagoplasty to Substitute Entire Esophagus with Isoperistaltic Colon. A. M. Dogliotti and G. Guglielmini.—p. 515.
Pressure in the Right Ventricle and Pneumonectomy. V. Benedetto and T. Poletti.—p. 521.
Some Histological Aspects of Arterial Innervation in Amputation Stumps: Experimental Studies. R. Ferrero and S. Abeatici.—p. 525.
*Synthetic Antihistamines in Prophylaxis and Treatment of Post-Transfusion Reactions. C. Catalano.—p. 544.

Substitution of Esophagus with Isoperistaltic Colon.—In October, 1950, a 19-year-old woman accidentally swallowed sulfuric acid that severely damaged the esophagus. All attempts of endoscopic therapy failed, and roentgenograms revealed that the contrast medium stagnated in the oropharynx. Three months after the accident the patient could no longer take fluids and had to be fed through a gastric fistula. Attempts to dilate the esophagus by the retrograde approach through the fistula also failed. Two years later surgery was resorted to. In September, 1952, a laparotomy was performed to ligate and section the right ileocolic artery and to remove the appendix. A second intervention, which lasted seven hours, was performed about 20 days later. The middle colic artery and the right colic artery were ligated and sectioned. The ileum was severed about 5 cm. from the ileocecal valve. The cecum, ascending colon, and two-thirds of the transverse colon were mobilized, and an incision was made through the transverse colon slightly beyond the middle point. The segment that was to be substituted for the esophagus was about 45 cm. long. Its aboral end was sutured. The continuity of the alimentary tract was restored with an isoperistaltic ileotransversostomy. The distal part of the colon segment was anastomosed end-to-side to the first jejunal loop, and then the cervical stage of the intervention was begun. A long incision was made along the anterior margin of the left sternocleidomastoid muscle and the left omohyoid, sternohyoid, and sternothyroid muscles were resected. The sternal insertion of the sternocleidomastoid muscle was also resected. The esophagus, a hard string-like structure surrounded by extensive and firm adhesions, was severed about 3 cm. from the pharynx, and a rubber tube was introduced through the mouth and passed through the stump. The colon was then lifted retrosternally from the abdomen after the sternal apophysis had been resected. The laparotomy incision was sutured in layers. An end-to-side anastomosis was performed joining the cervical esophagus to the cecum, and the rubber tube was passed through the anastomosed area. The muscles that had been sectioned transversally were sutured and fixed over the new esophagus. Two drainage tubes were left in the cervical incision and were removed after four days. The immediate postoperative course was good. The cervical esophagus had a tendency to narrow, but gradual and painless dilatation was secured with common dilators in about 30 days. The patient was able to take fluids and semifluid food. But shortly thereafter severe postprandial symptoms developed that were probably due to exclusion of the stomach from the alimentary tract. A third operation was performed in January, 1953, to form a colon-gastrostomy in addition to the colon-jejunostomy that had been formed during the second intervention. A side-to-side anastomosis was performed joining the lower portion of the colon, which served as esophagus, to the stomach. The postprandial symptoms disappeared, the general condition of the patient began to improve, and on March 1, 1953, the gastric fistula could be closed definitively. At the time of writing, the patient was well and was able to eat any food. Roentgenograms indicated that the new esophagus was functioning well.

Synthetic Antihistamines in Post-Transfusion Reactions.—Synthetic antihistamines have been used to prevent or treat post-transfusion reactions when a hypothesis was advanced that these reactions may be of allergic origin. The author studied the effects of intravenous administration of antihistamines in 220 direct and indirect transfusions at the clinic of the University of Palermo from April, 1950, to May, 1952. The patients who received an average of 250 cc. of blood or plasma were divided into four groups, and three antihistaminic preparations were used. The first group of 57 patients was given the antihistamine preparation as soon as the reactions appeared (15 to 30 minutes after the transfusion). They occurred in 64% of the patients but disappeared within four minutes after the administration of the drug. A second group of 105 patients was given the antihistamine preparation immediately before and after the transfusion and again 15 minutes later. Blood and plasma to which the antihistamine had been added were given during surgery to 22 and 16 patients respectively. Coagulation was prevented by means of Novotrans, a hyposulfite. A fourth group of 20 persons received the antihistamine 15 minutes after the transfusion. The best results were obtained in these patients with a 37% decrease in the incidence of reactions. The same incidence of reactions was found in those to whom the antihistamine was given concurrently with blood or plasma during surgery. But the good effects in these patients were ascribed mainly to the desensitizing action of the hyposulfite. The prophylactic effect of the antihistamine preparations varied according to the time at which they were administered. The intravenous administration of the preparations did not cause side-effects. The results seem to confirm the theory of the allergic pathogenesis of post-transfusion reactions.

Münchener medizinische Wochenschrift, Munich

95:1001-1024 (Sept. 11) 1953

Clearance Studies on Patients with Diseases of Kidneys Associated with Hypertension. H. Schwalb.—p. 1001.
Problems of Rearing of Premature Infants. R. Weller.—p. 1004.
"Tumors" on Buttocks. S. Spörlein.—p. 1007.
Heart and Trauma. H. Meyeringh.—p. 1007.
*Oxytetracycline in Treatment of Severe Surgical Inflammations. H. Schultz. —p. 1010.
*Combined Administration of Penicillin and Streptomycin in Urology. F. Strähuber.—p. 1012.

Oxytetracycline in Severe Surgical Inflammations.—Oxytetracycline (Terramycin) is the antibiotic with the widest spectrum of efficacy in vitro. It was used in the treatment of 54 surgical patients. There were 32 severely ill patients with peritonitis. Severe diffuse infection of the abdominal cavity had occurred in 14 of these 32 patients and was due to perforating appendicitis in 6, perforating Meckel's diverticulum in 1, postappendectomy infection in 1, perforating gallbladder in 2, perforating gastric ulcer in 2, and perforative peritonitis secondary to prolonged constriction of intestine in 2. The suppurative peritonitis that was caused by Escherichia coli, Proteus, or hemolytic streptococci was controlled in all 14 patients with continuous infusion of 2 gm. of oxytetracycline for one to eight days followed by oral administration in tablets of 1 gm. of the drug in 24 hours for 3 to 11 days. Sixteen of the 32 patients had localized peritonitis due to perforating appendix in 8, perforating gallbladder empyema in 4, perforating ulcer in 2, and secondary to operation for carcinoma of the colon and of the stomach in 2; all these patients were given oxytetracycline first intravenously and then orally, and except for one patient with insufficiency of duodenal stump after primary resection of the stomach for a giant callous perforating duodenal ulcer, all the others made a complete recovery. The lives of some of the patients with diffuse or localized peritonitis, who were too ill to be operated on, were saved by the oxytetracycline. Two patients with large appendical abscess were therapeutic failures. Highly satisfactory results were obtained in patients with acute phlegmonous infection, particularly in those caused by anaerobes.

Combined Administration of Penicillin and Streptomycin in Urology.—Pasimycin, an antibiotic compound containing 1 gm. of dihydrostreptomycin sulfate and 400,000 units of penicillin, was given prophylactically to 20 patients who underwent radical prostatectomy. One-half of the original dose, i. e., 0.5 gm. of streptomycin and 200,000 units of pencillin, was administered four times at 6 hour intervals in 24 hours. A continuous minimum blood level of streptomycin can be obtained *only with injections* repeated at least every six hours. Concentrations in the urine of 500 to 1,000 gamma per cubic centimeter were obtained with the six hourly injections of 0.5 gm. of streptomycin. Primary healing of the operative wound was obtained in 12 of the 20 patients. A urinary fistula due to catheter disturbances or insufficient suture of the bladder developed in eight patients, but healing of the operative wound occurred after mild inflammation in five, while suppuration occurred in only three patients. Satisfactory wound healing thus occurred in 75% of the patients operated on while receiving combined penicillin-streptomycin therapy. There was not a single case of severe ascending urinary infection. Of 20 patients who underwent radical prostatectomy without prophylactic treatment with antibiotics primary healing of the wound occurred in 4, and in additional 4 patients healing of the wound occurred after mild inflammation associated with a temporary urinary fistula. The ratio of 75% of satisfactory healing of the wound with antibiotic prophylaxis as compared to 40% without it, suggests the use of large doses of streptomycin combined with penicillin for operative prophylaxis, although the small number of cases does not permit definite conclusions. Shortening of the average postoperative hospital stay by three days was an additional advantage of the combined antibiotic therapy. It was continued for only 96 hours because bacteria that would have remained in the wound after this period would have become resistant and further continuation of the treatment might have masked, but not prevented, the impending suppuration of the wound. The expenses of the suggested prophylactic treatment seem to be justified, since antibiotic treatment after prostatectomy will be required in most patients because of threatened ascending urinary infection.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

97:2061-2116 (Aug. 8) 1953. **Partial Index**

Pulmonary Cancer: Prevention and Cancerophobia. J. Exalto.—p. 2069.
*Influence of Psychic Factors in Pathogenesis of Myocardial Infarction. G. F. van Balen.—p. 2074.
Reactions of Persons with Vascular Instability to Severe Physical Strain and Its Influence on Eosinophils. L. Koster, E. van Westreenen and C. J. Alers.—p 2079.

Psychic Factors in Pathogenesis of Myocardial Infarction.—The symptoms of myocardial infarction in the first two patients were preceded by anginal attacks of more than ordinary duration. One, a 63-year-old man, had one attack of angina of 15 minutes' duration 12 days before the onset of infarction. Several days later, he had a similar attack of the same duration, and then after several milder and shorter attacks, the myocardial infarct developed. This and another patient had these anginal attacks only about two weeks before the infarction, and it was especially noteworthy that the first anginal attack followed psychic tension and emotional stress the cause of which persisted. The author presents histories of several other patients in whom myocardial infarction developed after worry about difficulties had persisted for some weeks, and the infarct itself appeared during a violent emotion caused by the difficulties. The seriousness of the difficulties as well as the psychic predisposition of each patient may have contributed to the damaging effects. The predisposition may be congenital or result of previous experiences or of somatic disease. It is well known that the development of hypertension often influences the degree of emotional upset, and myocardial infarct often develops in hypertensive patients. Several brief case histories are presented to illustrate this connection. Other patients complained of great fatigue some months before the occurrence of the infarct, and it is not improbable that although these patients did not as yet have angina, their fatigue may have been due to some insufficiency in their coronary circulation, which also may perhaps increase emotional upset. The relationship between infarction and [illegible] psychological factors as a rule remains unrecognized [illegible] a special inquiry is made with regard to this possibility.

New Zealand Medical Journal, Wellington

52:237-314 (Aug.) 1953. **Partial Index**

Medical Aspects of Atomic War. E. Button.—p. 239.
Some Aspects of Anuria in Obstetrics and Gynaecology. J. L. Wright. —p. 247.
Herpangina with Isolation of Virus. T. G. Fox and A. M. Murphy. —p. 257.
"Q" Fever and Its Human and Animal Association. R. M. Salisbury. —p. 260.
Accuracy of Cardiographic Diagnosis and Location in Myocardial Infarction. M. K. Gray.—p. 278.
Serological Diagnosis of Infectious Mononucleosis. N. P. Markham and S. J. Sinclair.—p. 280.
*Mesenteric Vascular Occlusion. H. M. Karn.—p. 289.

Mesenteric Vascular Occlusion.—Karn presents histories of 9 patients with mesenteric vascular occlusion observed at the Dunedin Public Hospital over the past four years. Patients may present as medical or surgical cases or as cases without clear diagnostic features. Medical cases may occur in patients with auricular fibrillation receiving digitalis or quinidine, patients with endocarditis, and patients with coronary infarction of some weeks' duration in whom a mural thrombus has suddenly detached. There may be diarrhea and melena, and some may recover on the establishment of a satisfactory collateral circulation. Surgical cases may occur in patients with intestinal obstruction sent into hospital for observation. There may be severe abdominal colic, fecal vomiting, abdominal distention, and constipation. In rapidly fatal cases with some undiagnosed abdominal catastrophe, abdominal colic and vomiting are followed by sudden pallor, shock, and death. In cases with no clear diagnostic clinical features there may be abdominal colic with melena, with or without abdominal distention and tenderness. Roentgenography with barium and sigmoidoscopy shows nothing abnormal; some patients are subjected to laparotomy in order to exclude a neoplasm and evidence of intestinal infarction may be found. In the medical cases, which have been correctly diagnosed, gastrointestinal suction should be established to prevent distention. Blood or blood substitutes should be given intravenously to combat shock. Anticoagulants should be administered for several days. Patients in whom the mesenteric vascular occlusion is encountered at laparotomy as a surgical emergency require resection of the infarcted bowel with end-to-end anastomosis and the immediate administration of anticoagulants to limit further local thrombosis. Resection with a temporary double-barrelled enterostomy by the Paul-Mickulicz technique has likewise proved successful.

Revista Brasileira de Tuberculose, Rio de Janeiro

21:389-580 (May-June) 1953. **Partial Index**

*Treatment of Pulmonary Tuberculosis in Patients with Leprosy. S. de Oliveira Lima and M. Fontes Magarão.—p. 397.
Early Results of Intracavitary Isoniazid in Association with Monaldi's Aspiration. E. Rizzo and R. Costa Carvalho.—p. 441.

Tuberculosis in Patients with Leprosy.—Leprosy is rare in pulmonary tuberculosis whereas the latter is frequent in patients with leprosy. Out of 1,019 patients with leprosy observed by the authors in a period of four years, 119 (11%) had pulmonary tuberculosis, with or without cavitation. Of 106 patients, 60 had pulmonary cavities and 46 did not. All of the patients had the dietetic hygienic regimen and streptomycin, which was given intramuscularly in daily doses of 0.5 gm. per injection up to a total dose of 15 or 30 gm. for each series. Twenty-two patients with cavities had collapse therapy, by pneumothorax or pneumoperitoneum, with cure in 2 cases, improvement in 8 cases, and death in 3. The condition did not change in one case and became worse in 8 cases. One patient without cavities had pneumoperitoneum with consequent cure. In the 38 patients with cavitation who did not have collapse therapy the figures were as follows: Cure in 2 cases, improvement in 9, death in 15, and 12 cases either unchanged or worse. In the 45 patients without cavities who did not have collapse therapy the figures were as follows: Cure in 38 cases, improvement in 3, death in 2, and unchanged course in 2. The authors obtained remarkably good results in 21 out of 22 patients with leprosy and pulmonary tuberculosis from administration of isonicotinic acid hydrazid. The results are recent and conclusions cannot be reached. They conclude that streptomycin is of value with simultaneous good results on both pulmonary tuberculosis and leprosy. The mucosal complications of leprosy improve simultaneously with the clinical symptoms, roentgen signs and bacteriological findings of pulmonary tuberculosis. The drug is specific in tuberculoid forms of leprosy. It causes disappearance of small pulmonary cavities. The occurrence of streptomycin-resistanc of tubercle bacillus does not call for discontinuance of th drug for as long as the patient maintains his body weight an the general condition, the symptoms, roentgen signs, and bacteriological findings show improvement. Collapse therapy is th necessary treatment of pulmonary tuberculosis with cavitatio in patients with leprosy.

Revue de la Tuberculose, Paris

17:765-900 (No. 7-8) 1953. **Partial Index**

*Endobronchial Perforations of Lymph Nodes Considered Apart fro Primary Infection. A. Dufourt, J. Brun and C. Ollagnier.—p. 765.
Biochemical Behavior of Several Acylhydrazones of Glycurolacton H. Passedouet, P. Fusey and M. Roussos.—p. 784.
Experimental and Clinical Study of Isonicotyl-Hydrazone of Glycuron lactone. G. Brouet, B. N. Halpern, J. Marche, J. Mallet and J. Chrétie —p. 789.
Remarks on Signs and Evolution of 225 Discrete Tuberculous Infiltrat of Lungs Followed for from One to Five Years. A. Meyer, J. Bouhe H. Defourneaux and Mrs. Defourneaux.—p. 825.
Search for Koch's Bacillus by Inoculation of Guinea Pig in Curre Practice. F. Tison.—p. 831.

Endobronchial Perforations of Lymph Nodes.—Bronchial pe forations of the lymph nodes that coincide with the onset chronic phthisis are exceptional. At a later stage, lesions ma appear in the lymph nodes and lead, notably after the ag of 50, to fistulas that are usually unipolar, but sometim bipolar or multipolar. In the latter case, the fistulas a bronchial or esophagobronchial. That there is no pathogen connection between perforations of the lymph nodes an primary infection is the opinion of the authors. Their opinio is based on their observations of the differences in time an place of appearance of these two kinds of lesions. The anteri segment of the upper lobes is the preferred area of dischar of pus from the lymph nodes while primary infection nev occurs here. It is felt that the contrary doctrine of Schwar that primary infection is a lesion of bronchial aspirati caused by the discharge into the bronchi of pus from fistul of the lymph nodes, is incorrect as far as modern Weste Europe is concerned because it is based on observations Near Eastern peoples who have not been exposed to the di ease for as long a period and have, therefore, acquired little no immunity to it.

Rivista di Neurologia, Naples

23:217-352 (May-June) 1953. **Partial Index**

*Periarteritis Nodosa: Neurological Symptoms and Value of Corticotrop and Cortisone Therapy. L. Canestrini and F. di Biagio.—p. 217.
Study of Rorschach Psychogram in Organic Brain Disorders. V. Porta a U. Marzuoli.—p. 241.
Catatony Due to Bulbocapnine: Electroencephalographic Study. L. Sin and G. Tonini.—p. 269.

Neurological Symptoms in and Treatment of Periarterit Nodosa.—The neurological symptoms present in patients wi periarteritis nodosa are important diagnostic factors, althou they are often underestimated or misinterpreted. These sym toms may involve either the central or the peripheral nervo system. Peripheral neuritis is the commonest. Sometimes, whe the central nervous system is involved, the symptoms may typical of acute vascular disease with hemiplegia, aphagi conjugate deviation, and Jacksonian or generalized convulsi attacks. Papilledema may be present in some instances an the meningeal syndrome in others. Extrapyramidal sympton and lesions of the bone marrow are rare. The patient unde goes states of confusion, loss of consciousness, depressi states, and frequent changes of mood. Peripheral neuritis wi intense pain is present in the initial or early phase of th disease. It may occur in the form of a mononeuritis multiple involving most frequently the median, ulnar, radial, and tibial nerves, or it may be a symmetrical progressive polyneuritis that involves the nerves of the lower extremities. The progression of the lesions is not, however, uniform and may cease at any stage. There may also be partial remission. Differential diagnosis should be made between the neuritis present in other infectious diseases such as diphtheria, typhoid, malaria, and endemic encephalitis. Biopsy has diagnostic value only when it is positive. In many instances in which biopsy did not indicate disease, the disease was confirmed at autopsy. Periarteritis nodosa may be acute with a sudden onset and severe impairment of the general condition and the central nervous system. Death in these cases is due to severe renal insufficiency and heart failure. Chronic periarteritis nodosa may last for many years with persistent symptoms and periods of remission and exacerbation. The main anatomic alteration is a localized exudative necrotic arteritis. There is at first necrosis of the media extending toward the intima in the arterioles and the adventitia in larger arteries. Then cellular infiltration and proliferation of the connective tissue occur, nodular aneurysms appear, the proliferation of the intima sometimes obliterates the lumen and granulomatous tissue is formed. A temporary remission may then follow. Corticotropin and cortisone have been used to treat patients with the disease since its lesions resemble closely those of collagen diseases and since it was thought to be of allergic origin. Subjective improvement with gain of appetite and strength, return of temperature to normal, and changes in the neurological symptoms have been reported together with a decrease in the number of eosinophils, diminished sedimentation rate, and increased elimination of the 17-ketosteroids. But the symptoms have reappeared after the therapy was discontinued. The authors are of the opinion that this treatment is mainly symptomatic and doubt whether it can arrest the process of the disease.

Schweizerische medizinische Wochenschrift, Basel

83:771-810 (Aug. 22) 1953. Partial Index

*Pathogenesis of Rheumatic Granuloma. A. von Albertini.—p. 772.
Chronic Pneumonopathy and Rheumatism. E. Martin and G. H. Fallet.—p. 776.
Hemagglutinin Factor in Blood of Patients with Rheumatoid Arthritis. N. Svartz and K. Schlossmann.—p. 782.
Surface Alterations of Blood Cells by Pyrogenic Stimulating Substances. E. Fritze, P. Doering, H. Manecke and R. Schoen.—p. 783.
Ankylosing Spondylitis. F. D. Hart.—p. 786.
*Prolonged Treatment of Rheumatic Disease, and Particularly of Rheumatism of the Heart, with Cortisone. L. Villa, C. B. Ballablo and G. Sala.—p. 806.

Pathogenesis of Rheumatic Granuloma.—According to von Albertini, Aschoff's nodules represent a type of granuloma that is characteristic of rheumatism and should be considered as microscopically specific. The primary alteration of the tissues that precedes the occurrence of Aschoff's nodules has not been fully elucidated; a primary necrosis of muscle besides a fibrinoid necrosis of the connective tissue seems likely. The cell reaction of the granuloma serves the absorption of necrotic masses; it arises from the large basophilic cells of the granuloma that are to be considered as histiocytes. After the absorption, they seem to be transformed into the so-called "Anitschkow's cells." The term cardiohistiocytes is suggested for these cells that, however, are not myocytes since they are not limited to the myocardium but occur also in the endocardium and epicardium. They were observed in various abnormal conditions of the heart such as myocarditis, endocarditis, and pericarditis of various etiology (rheumatic and subacute bacterial endocarditis), also in experimental wound healing and in healing of cardiac infarcts. These cells, therefore, are not cause specific, not even of rheumatism, but are specific of the heart only. The authors' studies thus did not reveal any new facts from the etiological point of view. They did not provide any argument against the concept of Micrococcus (Streptococcus) infection, although the possibility of a contributing allergic factor must be admitted. It is quite possible that rheumatism too may be an allergenic infectious disease.

Cortisone in Rheumatic Disease.—Cortisone combined with procaine and crystalline penicillin, phenylbutazone (Butazolidin), aminopyrine, and sodium salicylate was used in the treatment of 41 patients with rheumatic disease. Eighteen of these were in the acute stage and did not present any cardiac lesions; nine did not show clinical signs of cardiac involvement but erythrocyte sedimentation rate, polysaccharides, and antistreptokinase power of the serum were increased, and there was dysproteinemia. The remaining 14 patients had clinical signs of involvement of the heart, and the laboratory findings were the same as in the 9 patients. Although the number of patients treated was small and the follow-up period short, the authors feel that the results obtained justify the following conclusions: the possibility of a preventive action with respect to cardiac involvement may be reserved to a small number of patients if treatment is instituted at the onset of the rheumatic attack, but is limited exclusively to the duration of this attack. On the contrary, a progressive course of the disease with involvement of the heart may be limited or arrested in a large number of patients by the institution of a prolonged treatment using the following schedule: a course of 300,000 units of procaine penicillin, 100,000 units of crystalline penicillin, and 2 to 3 tablets each containing 25 mg. of cortisone acetate daily for 10 days, followed after a five day rest interval by a course of 300,000 units of procaine penicillin, 100,000 units of crystalline penicillin, and 2 to 3 tablets each containing 0.2 gm. of phenylbutazone daily for 10 days; after a second rest interval of five days, the 10 day course of penicillin-cortisone treatment is repeated and is followed after a third five day rest interval by a course of 300,000 units of procaine penicillin, 100,000 units of crystalline penicillin, and 2 to 3 suppositories of 0.5 gm. of aminopyrine daily for 10 days; a fourth five day rest interval is followed by a course of 8 to 10 gm. of sodium salicylate daily for 10 days. The therapeutic action of this combined treatment should be recognized as definitely more effective than and superior to other methods of prolonged treatment tried previously. The prolonged treatment of cardiac involvement in the chronic stage of the rheumatic disease allows for the limitation and occasionally for the disappearance of signs of a progressive course. Cortisone therapy is effective in attenuating the general symptoms in patients with rheumatism of the heart in whom clinical signs are manifest and the disease progresses rapidly (the term progressive rheumatic carditis has been suggested for this condition). In most of the patients, improvement continued for the duration of the treatment and ceased with discontinuation of the treatment; in certain cases, however, improvement continued provided prolonged treatment was given for a sufficiently long period. Concomitant signs of cardiac decompensation should not be considered as an absolute contraindication to cortisone therapy. Although occasionally it may aggravate the signs of decompensation, it may exert a favorable influence on the circulatory condition in certain cases. Cortisone therapy should be omitted in patients with grave functional symptomatology and the dose of the drug should be regulated in other patients according to the favorable or unfavorable first signs of its effect on the particular condition of each patient.

Transactions Royal Soc. Trop. Med. and Hyg., London

47:261-350 (July) 1953. Partial Index

Leptospirosis in Tropical Countries: Review. J. C. Broom.—p. 273.
Experiment in Control of Malaria and Bilharziasis. W. Alves and D. M. Blair.—p. 299.
Liver Function Test Suitable for Tropical Practice. A. G. Shaper.—p. 324.
Treatment of Leprosy with Isonicotinyl Hydrazine: Case Report. W. H. Taylor.—p. 334.
Experiments with Antimalarial Drugs in Man: I. Protective Effect of Proguanil ("Paludrine") Against East African Strain of Plasmodium Falciparum Transmitted by Anopheles Gambiae. A. T. G. Thomas, G. I. Robertson and D. G. Davey.—p. 338.

BOOK REVIEWS

Peptic Ulcer: Pain Patterns, Diagnosis and Medical Treatment. By Lucian A. Smith, A.B., M.D., M.S., Assistant Professor of Medicine, Mayo Foundation, Rochester, Minnesota, and Andrew B. Rivers, M.A., M.D., M.S. Foreword by George B. Eusterman. Cloth. $12.50. Pp. 576, with 208 illustrations. Appleton-Century-Crofts, Inc., 35 West 32nd St., New York 1, 1953.

This new book is intended to aid in the diagnosis of peptic ulcer with a new approach to pain patterns involved in the various types of ulcer and their complications. The authors, with their additional contributors, have the extensive experience of the Mayo Clinic as their source of material. They have summarized the records from the Mayo Clinic and the recent literature on the subject. The basic discussion of the anatomy of pain, which is divided into somatic and visceral components, is both clear and detailed. There is an excellent discussion of the pathological anatomy—gross, microscopic, and roentgenologic. With each type of ulcer and complication of ulcer there appears a profuse illustration of the pain pattern, with numerous case histories to illustrate each type followed by a differential diagnosis.

Diseases of other organs anatomically related to the upper gastrointestinal tract are also differentially diagnosed from peptic ulcer. A discussion of the various complications includes recommended therapeutic routines. C. A. Good, roentgenologist of the Mayo Clinic, has contributed an excellent, profusely illustrated chapter that shows the roentgenologic findings in the various types of ulcer and complications. There is a long discussion of the methods of treatment used at the Mayo Clinic, followed by an appendix containing the various diets and other portions of medical management. It is noted that the patients are still awakened for milk and cream at midnight, 2:00 a. m., and 4:00 a. m. (pages 484, 485, and 501). Only atropine and methantheline (Banthine) bromide are discussed as anticholinergic agents, although these have been supplemented by more recent drugs. To prevent and control fecal impaction, the authors recommend a glycerin suppository or the retention of 3 oz. (85.05 gm.) of mineral oil overnight, and, in some instances, several "sudsy" enemas and "bulk" laxatives (page 498).

The physical examination of the entire body, outlined on page 146, seems too detailed for this type of book. The type is large and easy to read, but the numbers used for bibliographical references are too large and sometimes tend to interrupt the trend of thought. This is an excellent reference book to be used in the differential diagnosis of various types of abdominal pain. Peptic ulcer is discussed from a viewpoint different from that in any other current book. It is recommended especially to gastroenterologists and to anyone who treats ulcers in the course of his practice.

European Seminar and Lecture Course on Alcoholism. Sponsored by Royal Danish Government in cooperation with World Health Organization and United Nations, Copenhagen, 22 October–3 November 1951. Paper. Not for sale. Pp. 121, with 8 illustrations. Regional Office for Europe of World Health Organization, Palais des Nations, Geneva, 1953.

This book is a compilation by Professor E. M. Jellinek, consultant on alcoholism to the World Health Organization, of the seminars and lectures on alcoholism. The seminars and lectures were presented by experts on the medical, biological, and social aspects of alcoholism from Austria, Belgium, Denmark, Finland, France, Germany, Norway, Sweden, Switzerland, United Kingdom, and Yugoslavia. The book presents, in five sections, an up-to-date, factual, and clear summary of our knowledge and experience with the complex problem of alcohol addiction: (1) the physiological action of alcohol, (2) the causes of alcoholism, (3) the clinical findings and special features of alcoholism, (4) medical treatment of alcoholism, (5) the prevention of alcoholism and public care of alcoholics. Some European countries are far ahead of others in medic and public (social-economic) service to alcoholics. Unfort nately, this valuable publication is not for sale, but copi may be obtained from the European office of the World Heal Organization by medical libraries and health institutions.

The Diabetic Neuropathies. By Joseph I. Goodman, M.D., Siegfri Baumoel, M.D., Leonard Frankel, M.D., Louis J. Marcus, M.D., a Sigmund Wassermann, M.D. Publication number 151, American Lectu Series, monograph in Bannerstone Division of American Lectures in Enc crinology. Edited by Willard O. Thompson, M.D., Clinical Professor Medicine, University of Illinois College of Medicine, Chicago. Clo $4.75. Pp. 138, with illustrations. Charles C Thomas, Publisher, 301-3 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Lt 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toro 2B, 1953.

This monograph is a new addition to the American Lectu Series, a long line of current and fairly complete revie of medical subjects by recognized authorities. It was produc by a team from Mount Sinai Hospital in Cleveland, amo whom are students of neurology, peripheral vascular disea internal medicine, and diabetes. The authors have analyz the findings in their own series of 261 patients with diabet 62% of whom were judged to have neurological manifes tions, and compared them with those reported by other autho As such, the monograph is a source of much information clinical value. The experienced clinician will detect so apparent faults of interpretation, but these are of minor i portance compared to the faithfulness with which fact observations have been recorded. Illustrations and tables few in number, but organization is good, references to p tinent literature are generous, and the mechanical work ma tains the high quality characteristic of this publisher.

Textbook of College Hygiene. By Oliver E. Byrd, Ed.D., M.D., P fessor of Health Education, Stanford University, San Francisco. Clo $4.50. Pp. 443, with 26 illustrations. W. B. Saunders Company, 218 Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., Lond W.C.2, 1953.

Teacher's Manual for Use with Textbook of College Hygiene. Oliver E. Byrd, Ed.D., M.D., F.A.P.H.A. Paper. Pp. 43. W. B. Saund Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaft bury Ave., London, W.C.2, [n.d.].

Unique in its approach, this textbook is based on care surveys to determine the health interests and needs of colle undergraduates, rather than presenting what the author thir such a group should be told. After his studies, Byrd select the 30 chief subjects as chapter topics. The resulting book perhaps not far from what the average well-qualified hea educator would settle on without the aid of such a surv but, at the same time, there would appear to be added assurance that the material has been well chosen.

Presumably the author began the book with the subject which greatest interest was expressed and proceeded on a descending scale with subsequent topics. It is an interesting commentary on present interests that the first chapter deals with health in marriage, the second with pregnancy and childbirth, and the third with infant and child care. The next four chapters concern emotional and mental problems. From this point on, a large number of topics are covered, including nutrition, care of the teeth and eyes, communicable diseases, tuberculosis, heart disease, cancer, high blood pressure, accident prevention, atomic energy, and the problems of medical care. Excellent discussions are provided on tobacco, alcohol, and narcotics.

Another good feature of the book is a small manual of suggestions on teaching methods, this being available to teachers on request. It is well illustrated, and at the end of each chapter are questions to assist in review of the material, as well as references for additional reading. This book should be of great value in any college health education class.

These book reviews have been prepared by competent authorities but do not represent the opinions of any official bodies unless specifically stated.

A Guide to Human Parasitology for Medical Practitioners. By D. B. Blacklock, C.M.G., M.D., D.P.H., Director of Sir Alfred Lewis Jones Laboratory, Freetown, Sierra Leone, West Africa, and T. Southwell, D.Sc., Ph.D., A.R.C.Sc., Director of Fisheries to Governments of Bengal, and Bihar and Orissa. Revised by T. H. Davey, O. B. E., M.D., D.T.M., Professor of Tropical Hygiene, Liverpool School of Tropical Medicine, University of Liverpool. Fifth edition. Cloth. $5.50. Pp. 228, with 123 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2, 1953.

Although it is partly implicit in the title, it should be stated that this book cannot be considered on a par with currently available comprehensive textbooks on the subject. It is intended primarily to serve as a physicians' manual for laboratory identification of human parasites. The new edition includes short comments on prevention applicable to each parasite but does not provide information on treatment. The material is presented under the names of the parasites, which are grouped into chapters in accordance with classical zoological subdivisions. A chapter on spirochetes may be questioned as properly belonging within the scope of animal parasitology, and the authors indicate that they should not be classified with protozoa. On the other hand, the book omits certain parasitic diseases frequently included in more extensive works on parasitology. The anatomic diagrams of parasites are clear and resemble drawings found in standard books on zoology. The magnification or actual size of the drawings is not stated in several instances. A section of diagrams to illustrate the life histories of parasites provides a convenient summary of the salient features involved. A general index at the end, with main entries in boldface type, increases the usefulness of the book. It can be recommended for beginning students of the subject and to physicians who may require a guide to laboratory diagnosis for rural practice.

Textbook of Medical Treatment by Various Authors. Edited by D. M. Dunlop, B.A., M.D., F.R.C.P., Professor of Therapeutics and Clinical Medicine, University of Edinburgh, Edinburgh, L. S. P. Davidson, B.A., M.D., F.R.C.P., Physician, H. M. The Queen in Scotland, and Sir John McNee, D.S.O., M.D., D.Sc., Physician, H. M. The Queen in Scotland. Sixth edition. Cloth. $9.50. Pp. 1023, with illustrations. Williams & Wilkins Co., Mount Royal and Guilford Aves., Baltimore 2; E. & S. Livingstone, Ltd., 16 & 17 Teviot Place, Edinburgh 1, 1953.

The rapid advances in therapeutics during the past few decades have made frequent revisions essential to the continued usefulness of any textbook of medical treatment. The sixth edition of this book appears only 14 years after the initial edition, which was published in 1939. New authors have completely rewritten the chapters on tuberculosis, tropical diseases, nutritional diseases, nephritis, psychotherapy, and care of the aged; new chapters on chemotherapy, poisons, rehabilitation, and the treatment of malignant disease appear for the first time in this edition. Some revision has been made in every chapter, bringing all abreast of current developments. As implied in the title, the objective of the book is to provide the student and practitioner with specific information and instructions as to "the management of the case" rather than with theoretical aspects of drug action. As a result, there is a fund of detailed, practical advice on general measures for the care of the patient as well as on specific drug therapy. Although thoroughly up-to-date as far as the newer methods of treatment are concerned, the authors have consistently outlined conservative therapy well suited to help the practitioner maintain a cautious and skeptical attitude toward new and untested drugs.

As is to be expected in a book of this sort, whose 29 chapters were written by 28 different authors, the quality is not entirely uniform. More space is devoted to such remedies as mild mercurous chloride (calomel) and turpentine and to the virtues of fresh air and of keeping bowels open than one is accustomed to seeing in American texts these days. This does not seem to be a result of undue emphasis, however, but rather an absence of the deemphasis of some of these older measures that has occurred in this country with the rise of "scientific" medicine. The typography is good, and there is a thoroughly adequate index. On the whole, the authors have produced a book that once again demonstrates the respect with which the English language is treated by medical writers in the British Isles. Although it is evident that the book is intended primarily for English practitioners (with frequent references to rationing and to the difficulty in obtaining certain drugs in England, more emphasis on care of the patient in the home rather than in the hospital, and use of British proprietary names), its sane, balanced, and specific advice to the physician should be just as welcome here as on the other side of the Atlantic.

The Sulphonamides and Antibiotics in Man and Animals. By J. Stewart Lawrence, M.D., M.R.C.P., and John Francis, M.Sc., M.R.C.V.S., Professor of Preventive Medicine, University of Queensland Veterinary School, Brisbane. With assistance of Arnold Sorsby, M.D., F.R.C.S., Research Professor in Ophthalmology, Royal College of Surgeons & Royal Eye Hospital Surgeon, Royal Eye Hospital, London, and Philip G. Scott, F.R.C.S., Consultant Surgeon, E.N.T. Depart., Royal Devon and Exeter Hospital, Exeter. Second edition. Cloth. 42/. Pp. 482, with 39 illustrations. H. K. Lewis & Co., Ltd., 136 Gower St., London, W.C.1, 1953.

This new and greatly enlarged edition brings the subject matter up-to-date. The chapters on mode of action, drug resistance, the chemistry, bacteriology, pharmacology, and other aspects of both the sulfonamides and antibiotics are especially clear and complete. There is an extensive bibliography. The book covers all aspects of actions and uses of sulfonamides and antibiotics in man and in animals. If it has weaknesses, they are due to the broadness of its scope. For example, in discussing gonorrhea, the statement on page 196 that this "disease may eventually be completely stamped out" seems a little too enthusiastic; on page 198, the absolute injunction that routine tests of cure with the introduction of sounds should be made in every case of gonorrhea would not be accepted by 99% of American physicians; the suggestion made on page 214 for the dosage of streptomycin in tuberculosis is not in line with current thought; and, little mention is made of bacitracin, which is becoming an increasingly useful antibiotic. These errors of commission represent differences in opinion and do not detract from the general excellence of the publication, which can be recommended to students and physicians alike as the most useful book yet published in the field of sulfonamides and antibiotics.

The Year Book of Medicine (1953-1954 Year Book Series). Edited by Paul B. Beeson, M.D., et al. Cloth. $6. Pp. 736, with 127 illustrations. Year Book Publishers, Inc., 200 E. Illinois Street, Chicago 11, 1953.

This volume, the first of the current new series of the "Practical Medicine Year Books," contains abstracts of selected reports published in medical periodical literature between May, 1952, and May, 1953. The abstracts cover the field of internal medicine during that period and are divided into individually edited sections on infections, the chest, the blood and blood-forming organs, the heart and blood vessels and the kidney, the digestive system, and metabolism. Each abstract has a reference to the journal in which the complete report was published. The references are tabulated by means of superscript numbers, 1 through 9, repeated in that sequence throughout the text, and thus do not indicate the total number of abstracted articles either in the sections or the entire book. This scheme avoids the use of more than a single digit for each reference. When they consider them appropriate, the editors have appended bracketed comments to aid in the interpretation of the abstracted reports. These comments often are critical as well as constructive and increase greatly the value of the book as a review of the important recent literature. Subject and author indexes are included at the end. The typography, binding, and small over-all size are designed for convenience and ready reference. The book will be highly useful to all physicians who desire to keep informed of the significant advances in both experimental and clinical medicine.

History of the Second World War: United Kingdom Medical Series. Editor-in-Chief: Sir Arthur S. MacNalty, K.C.B., M.D., F.R.C.P. **The Emergency Medical Services. Volume I: England and Wales.** By Lieut. Colonel C. L. Dunn, C.I.E., I.M.S. Cloth. 50s. Pp. 460, with 51 illustrations. Her Majesty's Stationery Office, P. O. Box 569, London, S.E.1, 1952.

Civil defense received its first full scale test in modern times in World War II. The editor of this volume had practical experience as a regional hospital officer during the first two years of the war. This book on the planning, organization, and operation of the Emergency Medical Services of England and Wales is one of a number of publications dealing with the medical aspects of the history of World War II that are being compiled under the guidance of Sir Arthur S. MacNalty. The evolution of the Emergency Medical Services in Great Britain during World War II represented an extraordinary development in civilian medicine. This book presents in a concise manner the functions and work of these services in providing medical care as adequate as was possible under the conditions existing in England and Wales during the period 1939 to 1945. Furthermore, a careful interpretation of the activities of these Emergency Medical Services is enlightening in retrospect relative to the development of the National Health Service in Great Britain. Because of the wealth of material relating to organizational planning and the subsequent operational activities that stemmed from such planning, this book should be of special interest to all who are concerned with the broad aspects of medical planning for civil defense.

Clinical Unipolar Electrocardiography. By Bernard S. Lipman, A.B., M.D., Instructor in Medicine, Emory University School of Medicine, Atlanta, and Edward Massie, A.B., M.D., F.A.C.P., Assistant Professor of Clinical Medicine, Washington University School of Medicine, St. Louis. Second edition. Cloth. $6.50. Pp. 309, with 260 illustrations. Year Book Publishers, Inc., 200 E. Illinois St., Chicago 11, 1953.

The first edition, published in 1951, was limited to the subject of unipolar electrocardiography and did an excellent job in making a difficult subject clear and understandable. In this edition sections on cardiac arrhythmia, myocarditis, congenital heart disease, hyperventilation, and the two-step (Master) exercise test have been added. This new material has increased the size of the book until it can scarcely be considered a monograph any longer but is approaching the size of a textbook. Very little change has been made in the original section of the book. The bibliography contains no reference later than 1950. Over 100 pages of illustrative electrocardiograms are included. This book is recommended for reference for cardiologists and internists with a special interest in diseases of the heart.

Textbook of Histology. By José F. Nonidez, D.Sc., and William F. Windle, Ph.D., Sc.D., Scientific Director, Baxter Laboratories, Inc., Morton Grove, Ill. Second edition. Cloth. $9.50. Pp. 528, with 326 illustrations. McGraw-Hill Book Company, Inc., 330 W. 42nd St., New York 18; 95 Farringdon St., London, E.C.4, 1953.

Since the first edition of this book appeared in 1950, about three years after the death of the senior author, the present revision has been undertaken entirely by Windle. The book is designed primarily to acquaint beginning students with the fundamentals of histological structure and function. Controversial discussions are avoided for the most part, and the bibliography consists only of brief lists of collateral readings at the end of each chapter. The illustrations are numerous, clearly labeled, and excellently reproduced. The subject matter is clearly presented, and there is no small type. The material covered by this text, supplemented by classroom guidance, should be entirely adequate to meet the needs of first year medical students. The book is, however, too limited in scope and dogmatic in approach to serve as a review or a reference text for the advanced student.

Group Work with the Aged. By Susan H. Kubie and Gertrude Landau. Cloth. $3.50. Pp. 214. International Universities Press, Inc., 227 W. 13th St., New York 11, 1953.

This book is an account of experiences in organizing and working in a recreational day center for the aged. The setting described is the William Hodson Community Center, a unit of the Department of Welfare of New York City. It was started nine years ago as a pioneering experiment in social welfare. From an uncertain beginning, the project has grown in stature and significance and now may well serve as a model for the many similar units that are springing up throughout the country. The authors point out that one of the major problems of the aged is their progressive isolation from the community and friendly human contacts. Centers such as the one described are designed to meet to some extent the human need for social living. By means of the illustrative cases and excerpts from what must have been a daily diary, the authors succeed in bringing the reader into the community center to see for himself how it functions. The authors' background and training in social work and psychiatry is evident from their intelligent and enlightened comments on the human problems encountered. The volume is exceedingly well written and interesting. It should not be missed by anyone who has anything to do with groups of older people. More than that, the authors demonstrate that older persons have in many respects the same potentialities for development as children, if they are cared for and handled with some of the same skill, patience, and kindness.

Surgical Pathology. By Lauren V. Ackerman, M.D., Professor of Surgical Pathology and Pathology, Washington University, School of Medicine, St. Louis. Cloth. $14.50. Pp. 836, with 913 illustrations. C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, 1953.

Although much work has no doubt gone into the preparation of this book, the result is disappointing. The reader is confused because of the numerous ambiguous statements, inconsistencies, and dogmas. One is at a loss to explain why a book on surgical pathology would attempt to censure the modern surgeon with such a statement as "'Can I get away with this operation?'" The reviewer feels certain that the modern surgeon, who truly lives up to that appellation, is primarily interested in the patient and not in surgical exhibitionism. Again one is at a loss to understand another innuendo aimed at the surgeon, when on page 18 the statement appears that technical dexterity is "a fairly common commodity." Such ungracious statements are pointless and surely do not fall into the realm of surgical pathology.

Numerous contradictions are noted throughout the text, the most blatant example of which is the following: The author correctly states that the surgical pathologist "must have a rich background of clinical medicine," but chapter 2, which deals with dermatopathology, has been assigned to a nonmedical colleague. This is difficult to comprehend. Another example of confusing contradiction is to be found in chapter 11, dealing with the liver. On page 380 this sentence is noted: "We have found aspiration biopsy to be definitive in making a diagnosis not only of a primary malignant neoplasm of the liver but also of metastatic carcinoma and melanocarcinoma (Fig. 434)," but on page 386 one finds the following sentence: "Resection of a single metastatic lesion or resection of metastases in continuity of primary tumor (cancer of the stomach, cancer of the large bowel) may yield satisfactory palliation." Surely aspiration biopsy can not determine whether the metastatic lesion is single or multiple, or whether or not it is resectable. Exploratory laparotomy only can determine these facts, and, if this is contemplated, why should the patient be subjected to the biopsy? Although Ackerman claims that the risk of such aspiration is "slight," he nevertheless includes a reference that records 14 deaths from this procedure. One wonders at the number of such fatalities that are not reported.

Dogmatic statements are dangerous particularly when they appear in a textbook that is written for medical students. The author asserts that frozen sections of hyperplastic lymph nodes "should not be difficult to interpret." Many qualified pathologists would disagree with such an assertion because of the difficulties that frequently are encountered in differentiating a hyperplastic lymph node from a lymphoblastoma, not only on frozen but also on paraffin sections. A discussion of the esophagus appears in chapter 9. The author includes esophageal diverticula that occur in the lower third of the esophagus in the same category as those that appear in the region of the hilum of the lung. He therefore refers to both of these as traction diverticula and says that they are associated with inflammatory changes in regional lymph nodes. This is incorrect because those diverticula that are found in the lower third of the esophagus (epiphrenic) are of the pulsion variety and have nothing to do with lymphadenopathy. In this same section the statement is made that carcinoma does not arise within such diverticula. This is certainly erroneous. Diverticulosis and diverticulitis are again discussed under the heading of "Large Bowel." In neither of these parts was there any space alloted to the important physiopathology that pertains to diverticula. The specific role played by stasis should have at least been mentioned.

This book has not kept abreast with recent trends since no mention is made of the truly modern version of radicalism in so-called radical mastectomy. This includes a dissection of those nodes that course along the internal mammary artery and are surely important to the pathologist. Current literature has no paucity of material dealing with chronic relapsing pancreatitis. Although Dr. Ackerman has one reference to this condition in the bibliography, a discussion of it is lacking. This malady certainly is as important as some of the rare conditions he describes. Although clinicians and pathologists now avoid the misused and abused misnomer of chronic cystic mastitis in favor of the more acceptable term mammary dysplasia, "Chronic Cystic Mastitis" is the heading of a section of this work. In the discussion that deals with tumors of the salivary glands, papillary cystadenoma lymphomatosum (Warthin's tumor) is considered. The author remarks that this tumor does not become large. Although such tumors are rare, the reviewer has seen in his own clinical material a Warthin's tumor that was so large that it elevated the lobule of the ear. The appearance of such definite statements is clinically misleading and at times dangerous, especially if one is called on to prognosticate the course of the lesion.

Gonorrheal infection of the fallopian tubes is still an important part of any textbook on pathology. The medical student as well as the physician will repeatedly refer to textbook's for an adequate description of this condition. The following is the entire space alloted to it. "Tubular infection in gonorrhea is common and leads to progressive obliteration of the lumen by progressive destruction of the epithelium. The microscopic changes which are present are those of chronic inflammation." If one wished to acquire information regarding this condition, he would again have to refer to another textbook. The following meaningless sentence constitutes the entire discussion of the clinical findings in acute cholecystitis. "In acute cholecystitis the clinical symptoms and signs are those of an acute surgical condition." Such a statement is better left unwritten than to be presented in such an erratic fashion. Although there is much didactic material in this work that could be of great value, it has been lost by poor writing, poor editing, or poor proofreading. The illustrations have been beautifully reproduced, and the references that appear at the end of each chapter constitute the best part of the book.

Standard Methods of Clinical Chemistry. Volume I. By the American Association of Clinical Chemists. Editor-in-Chief: Miriam Reiner, Director, Chemistry Laboratory, Gallinger Municipal Hospital, Washington, D. C. Cloth. $4.50. Pp. 142, with illustrations. Academic Press, Inc., 125 East 23rd Street, New York 10, 1953.

In its constitution, written in 1948, the American Association of Clinical Chemists pledged to standardize and codify chemical methods of analysis used in clinical laboratories. This volume is the first in a series compiled to meet this objective. It contains instructions for performing the commonest routine laboratory tests; specialized subjects will be treated in the later volumes. Each method first was tested in the laboratory of the chemist submitting it. Then it was sent to checkers who retested it for "validity and practicality" on normal and pathological specimens. While the nature of the individual test has somewhat influenced the style in which the chapters are written, all consider the scope of the test and give the names and affiliations of the submitters and checkers of the test; references to the original literature; the underlying principle; and methods of preparing the reagents, collecting and pretreating the samples, and performing the assays. Usually, calculation of result's, discussion of normal and pathological values, and bibliographies are included. The introduction outlines the role of the clinical chemist in a hospital laboratory.

The particular substances for which tests are included in this volume are amylase, bilirubin, calcium, carbon dioxide (titrimetric and volumetric methods), chloride, total and free cholesterol, creatinine, glucose (two methods), lipase, alkaline and acid phosphatase, inorganic phosphate, blood proteins, sodium and potassium (by flame photometry), urea nitrogen, and uric acid. The other tests are for prothrombin time and thymol turbidity. The book is beautifully printed, adequately indexed, and sturdily bound to stand the constant use it should receive at the hands of chemists, technicians, and clinical pathologists.

Keep Your Voice Healthy: A Guide to the Intelligent Use and Care of the Speaking and Singing Voice. By Friedrich S. Brodnitz, M.D. Introduction by Olin Downes. Cloth. $3.50. Pp. 234, with 17 illustrations. Harper & Brothers, 49 East 33rd Street, New York 16, 1953.

The subtitle of this book informs the reader that it is a guide to the intelligent use and care of the speaking and singing voice. The author's approach to voice production is derived from a comprehensive understanding of artistic problems as well as from an extensive experience with singers and public speakers. In general, he advocates no narrowly restricted method. The nontechnical language of the book is designed to make readily understandable to the lay reader sections on the anatomy and physiology of the vocal structures, their acute and chronic diseases, their medical treatment, and the various disturbances of voice and speech that can be remedied. Because it is the first such book written for the general public, it should prove especially useful to voice teachers, salesmen, actors, lecturers, businessmen, and those concerned with radio and television.

Plant Diseases in Orchard, Nursery and Garden Crops. By Ernst Gram and Anna Weber. Edited and adapted by R. W. G. Dennis, Ph.D. Translated from Danish by Evelyn Ramsden. Cloth. $18.50. Pp. 618, with 360 illustrations. Philosophical Library, Inc., 15 E. 40th St., New York 16, 1953.

This translation of the second edition of a book by Danish plant pathologists of international reputation is the first edition in English. The English editor has made the book more useful by including references to English work in plant pathology. In addition, brief reference is made to plant diseases known in Britain that are not met with in Denmark and hence were not described in the Danish text. The first section of the book is devoted to general principles dealing with the nature of plant diseases. The next three sections are concerned with the diseases of individual plants and crops. These are arranged under the headings: "Tree and Bush Fruit," "Vegetables and Herbaceous Fruit," and "Ornamental Plants and Trees." The last section deals with control measures. The value of the book is greatly enhanced by the illustrations, which have been chosen to facilitate recognition of the diseases rather than to illustrate microscopic characteristics. This book fills a definite gap in our literature on plant diseases and is a practical aid in recognition and treatment of plant diseases. It differs from other English books on plant diseases, which approach the subject from an academic viewpoint. This book should prove very valuable to growers, nurserymen, horticultural research stations, agricultural colleges, and anyone who has an interest in gardening.

Atomic Medicine. Edited by Charles F. Behrens, M.D., Rear Admiral, MC, U. S. Navy. Second edition. Cloth. $11. Pp. 632, with illustrations. Williams & Wilkins Co., Mt. Royal and Guilford Aves., Baltimore 2, 1953.

The first edition of this book appeared in 1949; the present edition contains new material on medical aspects of radioactive isotopes, high voltage acceleration, and radiation protection. It offers three detailed introductory chapters on the principles of atomic structure and ionizing radiation. These are followed by a magnificently illustrated chapter on the atomic bomb in action. The remaining chapters take up in detail the biological effects of atomic warfare and the steps to be taken by way of defense. The two chapters on survival methods in atomic disaster and on the design and operation of laboratories employing radioisotopes in medical research are of direct practical concern. There is a wealth of technical information in the form of tables and illustrations; the bibliography is good; and an ingenious index refers to decimally numbered sections instead of pages. The book will interest every medical reader.

QUERIES AND MINOR N

SURGICAL TREATMENT OF CORONARY ARTERY DISEASE

To the Editor:—*I have had two episodes of coronary occlusion within the last three years. Every cardiologist I have consulted has a different opinion as to the benefit of surgery for this condition. I have not practiced for about a year. Fortunately, outside of extreme fatigue I have had no other startling symptoms. I would like to have your opinion of surgery for this condition and the results as compared to conservative medical treatment.*

M.D., Wisconsin.

Answer.—The surgical treatment of coronary artery disease has been investigated by Beck and his associates in Cleveland since 1932. A large amount of surgical and physiological experimentation has been done on this subject. Two operations, the Beck 1 operation and the Beck 2 operation, were developed. These operations protected the heart against the destructive effects following experimental occlusion of a major coronary artery. Either of these operations saved the life of the animal and also saved myocardium after a major coronary artery was ligated. These operations were applied to about 125 patients who had severe coronary artery disease. In 81% of the patients who could be evaluated, the clinical result was excellent or good. The definition of "excellent" is "no pain, no medication, and return to former employment." The definition of "good" is "occasional pain, occasional medication, and return to former employment." The mortality in the last two years has been about 20%. The risk of the operation depends largely on the type of case accepted for operation. A number of patients with large infarcts and enlarged hearts were accepted for operation. These patients were in desperate condition and were bad risks for any operation. It is the condition of the heart rather than the operation that determines mortality. The medical mortality in these patients is high. If the patient has a good enough heart to go through the operation, the probability is that he will receive a good result. Operation is indicated for patients whose lives are threatened by a "mechanism death." The myocardium is good enough to function for a period of years but a "dry area" destroys the coordinated beat. Surgical methods can prevent these "dry areas" from developing by producing a more even distribution of the blood that goes through the diseased coronary arteries and also by adding additional blood to the heart from outside sources. The operation should be done early in the course of the disease rather than late. The operation cannot stop the occlusive process in the arteries, nor can it undo the degenerative changes in the heart muscle after the arteries have been occluded. It can protect the heart if it is applied before the occlusion strikes. The proper timing of the operation in reference to the course of the disease is a problem for the internist and the surgeon. The facts established by experimental investigation are being applied to the patient with coronary artery disease. It is important for the internist to become familiar with these facts and to appraise their value. His reluctance to do so may retard the proper treatment of his patient.

INTRAVENOUS DIGITALIZATION

To the Editor:—*When intravenous administration of digitalis is indicated, is lanatoside C or ouabain generally preferable? Are there any conditions in which one might be preferable?*

Leonard Casser, M.D., Cresskill, N. J.

Answer.—Apart from the fact that a smaller dose of ouabain is required, the chief difference between the drugs is
that ouabain has a shorter laten
within 5 minutes and becoming m
whereas lanatoside C requires two
produce its effects. Ouabain has
European and Latin American card
tively greater effect in improving lef
comparatively less effect on the cond
cardiac glycosides. Objective studies
impression are still equivocal. In thi
and the closely related digoxin are m
In the drug forms available, it is mo
divided doses of lanatoside C. Thus,
action avoids the frightening vagal sur
unless ouabain is given with the greate
indications for the intravenous use of a car
auricular flutter or a supraventricular tach
the suggested advantages of ouabain would
The greater immediate value of agents other
bodies, such as morphine, oxygen, and aminop
pulmonary edema, should be emphasized.

EPINEPHRINE AND CARDIOVASCULAR

To the Editor:—*Is administration of epineph*
lin) contraindicated for typical attacks of br
in patients who have hypertension, coronar
or arteriosclerotic heart disease?

Charles H. Codelle, M.D.,

Answer.—The pressor and cardiac excitato
epinephrine make it necessary that it be used wi
cardiovascular disease; however, the need for its
weighed against any possible harm. Often, a
hypertension who is having an acute attack of
increased blood pressure during the attack, wh
becomes lower after relief of the dyspnea with
The use of aminophylline is, of course, more de
if epinephrine is the only drug that helps in suc
its use may be advisable. If epinephrine prod
tachycardia, its use may be detrimental in art
heart disease or in almost any other type of hear
which increased cardiac activity is undesirable. T
also, of coronary disease. It should be remembere
that there is evidence that epinephrine dilates the
vessels.

THERAPEUTIC USE OF HUMAN BLOOD

To the Editor:—*The practice of administering fres*
from convalescents in the treatment of mumps,
and German measles seems to me to be incre
convalescent plasma as effective as hyperimmune g
If so, what is the optimal time for withdrawing th

Carlton W. Winsor, M.D., Mobile.

Answer.—There is no general tendency toward an
in the use of human blood or its constituents in the tr
of the diseases mentioned. In fact the reverse is true.
convalescent serum in large doses (50 cc. to 200 cc.) ha
recommended for the treatment of mumps in adults; ho
persons who have made a study of the subject believe
convalescent serum is of doubtful value for that di
There is not likely to be any proper reason for advo
convalescent plasma for the treatment of mumps in child
Human blood or its derivatives are rarely considered
therapeutic measure for measles, and certainly would not
administered as a remedy for German measles, a mild
ease. When convalescent serums were used extensively, blo
was usually drawn from donors 10 days to 2 weeks after
onset of the disease if the infection was uncomplicated.

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless sp[illegible]lly so stated in the reply. Anonymous communications and queries o[illegible]ards cannot be answered. Every letter must contain the writer's [illegible], but these will be omitted on request.

RCUMCISION

THE EDITOR:—*I have been requested to circumcise a Jewish infant in accordance with the ritual practice that precludes the use of sutures. The postoperative bleeding is supposed to be controlled by applying an astringent dressing and a tightly fitting band or tape around the penis. I refuse to perform such operation, on the ground that control of hemorrhage without sutures is unsafe. I would like to know whether performance of circumcision without the use of sutures is to be viewed as a surgical operation that cannot be approved of from a medical standpoint.*

Samuel Newman, M.D., Danville, Va.

This inquiry was referred to two consultants, whose re- ective replies follow.—ED.

ANSWER.—It is considered good surgical practice to avoid e use of sutures on any oozing surface when bleeding can e controlled easily by means of pressure; however, in the ent that active arterial bleeding is present, it becomes man- atory that such bleeding be controlled by ligation.

ANSWER.—It seems better to answer this inquiry from a rely surgical standpoint, excluding any religious relation. When doing a circumcision it is highly desirable to clamp nd tie all bleeding points and to place sutures to control leeding and approximate the epithelial edges. If sutures are ot taken for this purpose, the wound will heal by granula- on tissue and thus require much longer time for complete ealing. Obviously, it is dangerous to stop the bleeding by pplication of any band or ties around the penis.

FLUSHING OF FACE AND NECK OF WOMAN

To THE EDITOR:—*A 43-year-old woman had an artificial menopause when she was 38 because of radium implantation to control menorrhagia. Since then she has taken 1.25 mg. of estrogen (Premarin) daily. Her chief complaint is a permanent flush of the neck and the face of three months' duration. Examination shows a red flush of the face and neck not unlike that seen in chronic alcoholism, with numerous telangiectases. The patient does not drink or smoke. Her blood cell count is normal. Urinalysis and physical examination show nothing abnormal. There has been no undue exposure to the sun. Could the flush be due to (1) the prolonged intake of estrogen, (2) an early sign of lupus erythematosus, or (3) a psychosomatic manifestation? There is a basis for the latter.*

M.D., Pennsylvania.

ANSWER.—The flush of face and neck is probably not due to the estrogen administration. Actually, one would expect that the estrogen would relieve, at least partially, the flushing, since it does control the tendency toward capillary dilatation and fragility. Lupus erythematosus involves more than just a flushing. There is possibly a psychosomatic factor involved in this flushing of the face and neck. Women are especially prone to this distribution of flushing. It is not uncommon for a woman at her first examination in a physician's office to exhibit flushing of the face, neck, and chest.

HIRSUTISM DURING PREGNANCY

To THE EDITOR:—*A woman, 30, had her first child two years ago. During that pregnancy hair developed on her face, anus, and chest some of which disappeared after pregnancy. This patient would like to have a second child, but is afraid she will become more masculine in appearance. She has been to Boston for consultation but was not given any definite answer.*

Robert H. Goldman, M.D., Leominster, Mass.

ANSWER.—F. J. Stoddard (*Am. J. Obst. & Gynec.* **49**:417 [March] 1945) found reports of only five cases of hirsutism occurring in pregnancy in the literature. In at least two of the five, marked facial hair growth developed in three successive pregnancies. In one the hair fell out each time four to six months post partum, and in the other the hair disappeared about five weeks post partum. Other authors have reported a tendency toward alopecia in pregnancy. Similar conflicting findings have been observed in experimental animals. Stoddard reports two cases of hirsutism in pregnancy. In one patient the excessive hair growth appeared in the first pregnancy on the face, arms, legs, and back. At about eight weeks post partum she had a menstrual period. Shortly thereafter while taking a bath she noted that rubbing on the skin surface with a rough turkish towel removed the hair. She completed the hair removal that afternoon, and her hirsutism disappeared. The same events were repeated precisely one and a half years later. The patient is now free from excessive hair, and there are no masculine characteristics. In the second case the hair disappeared five months after labor. The inquirer may tell his patient that the hirsutism will most likely return in the next pregnancy but the excessive hair growth will be the only masculine characteristic that will develop. The hair should disappear after delivery.

CEREBRAL PALSY AND PREGNANCY

To THE EDITOR:—*A woman, aged 28, is a victim of cerebral palsy. Her husband has the same disease. She came to see me months ago complaining of sterility, and after treatment became pregnant. I am unable to find any reference in the literature to pregnancy and cerebral palsy or vice versa. Shall I permit her to deliver vaginally or should a cesarean section be done?*

M.D., New York.

ANSWER.—In all likelihood the patient's neurological condition will not influence the course of her labor. If she has a normal pelvis and the pregnancy proceeds uneventfully, she should be allowed to go into labor spontaneously and to deliver as naturally as possible. It may be necessary to terminate the labor by episiotomy and use of outlet forceps. Spinal anesthesia should be avoided. Abdominal delivery should be considered only for obstetric indications that may arise.

URINARY TRACT INFECTION

To THE EDITOR:—*A man has a urinary tract infection that is reported to be due to a "yeast-like, fungus organism." The urine is loaded with white blood cells. This followed cystoscopy for hematuria that revealed severe hydronephrosis on the left and hydroureter. There are five or six diverticula of the bladder, one of which appears to be larger than the bladder itself. Chlortetracycline (aureomycin), oxytetracycline (Terramycin), sulfisoxazole (Gantrisin), sulfonamides, methenamine mandelate (Mandelamine), and nitrofurantoin (Furadantin) have had no effect on the pyuria. The patient is comfortable and working, and I feel that sterilization of his urine would be adequate therapy. Could you offer any suggestions?*

Burchard S. Pruett, M.D., St. Louis.

ANSWER.—The "yeast-like, fungus organism" probably is not the cause of the urinary infection in this case and is secondary to inadequate drainage from the bladder. Although no statement is made regarding the existence of residual urine, the presence of five or six diverticula of the bladder is usually accompanied by a variable amount of residual urine. It would be difficult, if not impossible, for any urinary antiseptic to overcome infection in the presence of residual urine in the bladder. Cystourethroscopic examination is necessary to determine the existence of obstruction at the bladder neck. If obstruction is evident, it usually can be corrected by transurethral resection. If not, a careful search should be made to exclude neurogenous etiological factors. If the cause for any inadequate drainage of the bladder is corrected, the diverticula might contract. If they do not, diverticulectomy may be indicated. Yeast-like fungi usually belong to the genus Candida, the commonest form of which is C. albicans (monilia). These organisms have a low pathogenicity. They are not affected by any of the drugs mentioned. Should they persist in spite of the corrective measures suggested, lavage of the bladder with a solution of gentian violet might be tried.

BURNING SENSATION IN MOUTH

To the Editor:—*A man, aged 60, complains of constant burning in the mouth since 1944. This burning sensation resembles that following unusually hot drinks. There is no seasonal or daily variation, and it is not relieved by cold drinks, local anesthetics, or antiseptics. The patient is edentulous, but the condition is not affected by the presence or absence of full dentures. There is slight aggravation following the smoking of one pack of cigarettes a day. There is no visible change in the mucosa. The area of involvement includes the buccal and gingival surfaces without extending to the tongue. Please advise concerning diagnosis and treatment.* *W. L. Janus, M.D., Riverside, Calif.*

Answer.—A burning sensation of the tongue and oral mucosa is relatively common and may be related to systemic disease such as diabetes, vitamin A deficiencies, pernicious anemia, and decreases in salivary output. These are usually accompanied by visible signs of irritation of the mucosa. One of the changes associated with aging is dry mouth, associated with loss of keratinization of the mucosa and accompanied by stickiness of saliva that leads to mechanical irritation. The irritation may not cause gross changes in the mucosa. In some patients a burning sensation of the mucosa is psychogenic. The fact that the sensation in this patient is not relieved by local anesthetics would indicate that the pain is not a localized reaction to irritation but results from some conditions that the patient interprets as a burning reaction.

PENICILLIN REACTIONS

To the Editor:—*In* The Journal, *Sept. 19, 1953, page 258, the consultant who answered the query "Penicillin Reactions" said that "the addition of an antihistaminic drug to penicillin for parenteral administration will not prevent the occurrence of sensitivity reactions." This statement is contrary to the experience of many qualified workers. Some of the data disagreeing with this consultant were presented at the Scientific Exhibits of the American College of Allergy in Pittsburgh in April, 1952, and of the American Medical Association in Chicago in June, 1952. Our studies were done with chlorprophenpyridamine (Chlor-Trimeton) in a solution containing 100 mg. per cubic centimeter.*

Your consultant furthermore stated, "In some patients, not all, sensitivity to penicillin G is not accompanied by allergy to penicillin O; in these cases the latter agent can be given if there is fear of a dangerous reaction to penicillin G." Physicians treating patients sensitive to penicillin G with injections of penicillin O should proceed with extreme caution and should fear anaphylactic reactions, since it has been shown that there is a high degree of cross sensitization between penicillin G and O. (Risman, G., and Boger, W. P.: J. Allergy **21:***425-431, 1950.)*

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To the Editor:—*In the Queries and Minor Notes* (The Journal, *Sept. 19, 1953), your consultant stated that the addition of an antihistaminic drug to parenterally administered penicillin would not prevent the occurrence of sensitivity reactions. The incidence of such reaction has been reported repeatedly to vary from 2 to 10% (Collins-Williams, C., and Vincent, J.:* Ann. Allergy **11:***454 [July-Aug.] 1953). However, with addition of an 0.2% solution of chlorprophenpyridamine (Chlor-Trimeton), Simon reports an incidence of 0.64%* (Ann. Allergy **10:***187 [March-April] 1952). Jenkins* (Ann. Allergy **11:***96 [Jan.-Feb.] 1953) reported no sensitivity reactions after 590 injections of pencillin to which 10 mg. of chlorprophenpyridamine (0.1 cc. of a 100 mg. per cubic centimeter solution) had been added. Sanger and co-workers* (Ann. Allergy **11:***354 [May-June] 1953) reported a series of 897 patients given 1,055 injections of penicillin with 10 mg. of chlorprophenpyridamine in which only one patient (0.1%) experienced mild generalized urt caria. A report is now being prepared of 1,500 cases wi only three mild reactions (all three in known penicilli sensitive patients) in patients in whom the 10 mg. dose p injection was used. Thus there would seem to be defini evidence that antihistaminics will reduce the percentage antipenicillin reactions.*

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Boonton, N. J.

To the Editor:—*After reading the answer to the questi "Will the addition of an antihistamine to parenterally a ministered penicillin control the occurrence of sensitivi reactions due to the penicillin" that appeared in Queries a Minor Notes* (J. A. M. A. **153:***258 [Sept. 19] 1953), I belie that a documented answer with results in over 5,000 patien treated should carry more weight than one man's opinio In five of my own papers* (Ann. Allergy **8:***194, 1950;* **9:***66 1951;* **10:***187, 1952;* **11:***218, 1953; and* Arch. Dermat. Syph. **62:***314, 1950) it was shown conclusively that the r action rate with various antihistaminics added to crystalli potassium penicillin G is materially reduced from an avera of about 5% to 0.72% in 5,000 patients. When optimu amounts of the antihistaminic were added to the penicilli the figure was reduced even further, never above 0.5% a in our last 2,000 patients below 0.2%. Our results ha been substantiated by others (Jenkins, C. M.:* Ann. Aller **11:***96, 1953. Maslansky, L., and Sanger, M. D.:* Antibioti & Chemother. **2:***385, 1952. Davis, J.:* New York J. Me **53:***69, 1953) repeating our work.*

S. William Simon, M.D.
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To the Editor:—*In Queries and Minor Notes under th heading "Penicillin Reactions"* (J. A. M. A. **153:***258 [Sep 19] 1953) your consultant states, "The addition of an ant histaminic drug to penicillin for parenteral administratio will not prevent the occurrence of sensitivity reactions." Th gentleman probably is unaware of the published works S. William Simon (summarized in* Ann. Allergy **11:2** *[March-April] 1953). In studies employing various ant histaminic agents injected with penicillin, Dr. Simon saw total of 34 reactions in 4,687 patients, a reaction rate 0.725%. In 1,237 patients to whom tripelennamine (Pyr benzamine, Ciba) hydrochloride was given in a mixture wit penicillin, only three reactions (0.24%) were seen. Of thes two might have been caused by a sulfonamide or anoth antibiotic. To quote Dr. Simon, "If numbers mean an thing, our experiences in over 5,000 patients given Penicilli with antihistamine added should convince the most skeptica that the rate of reaction thus obtained is far below tha resulting from the same Penicillin without the antihistamin or from other Penicillin combinations." Since reaction rate to "unfortified" penicillin of 10 to 53% have been reported these results constitute a tremendous improvement.*

R. H. Roberts, M.D.
Ciba Pharmaceutical Products, Inc.
Summit, N. J.

NEOPLASMS OF THE SKIN

To the Editor:—*The reply to the query regarding neoplasm of the skin in* The Journal, *Oct. 24, 1953, page 776, said "The currently accepted treatment for neoplasms of th skin, exclusive of malignant melanoma, is wide local excision." This is a somewhat dogmatic statement with which numerous competent specialists will differ. Many neoplasms of the skin can be expertly treated with such measures as electrosurgery, x-irradiation, or radium radiation, with results that are excellent both therapeutically and cosmetically.*

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RELATIONSHIP OF OBESITY TO CORONARY DISEASE AND HYPERTENSION

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and
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For many years, the relationship between obesity and heart disease and hypertension has presented a challenging problem. The physiological effects of obesity on the normal heart and its harmful influences on the diseased heart are well established.[1]

Statistics compiled by insurance companies have shown conclusively that overweight alone is injurious and shortens life.[2] In middle and later life the lowest mortality ratios were observed in those whose weight was below the average for age.[3] There is overwhelming evidence, also, that obese persons have a much higher mortality rate from heart disease than those of average or lower weight. The difference has been as high as 60% for men who are 25% or more overweight.[4]

There have been few clinical studies on a possible etiological relationship between obesity and coronary disease and hypertension, and the results reported have been conflicting. The problem of the relationship of obesity to heart disease and hypertension is important because both conditions are widespread. In a study of 10,000 unselected persons, 28% were found to be 10% or more above their ideal weight, according to sex and height.[5]

The relationship of obesity to hypertension requires further investigation because of the recent proposal of new standards of hypertension by Master, Dublin, and Marks.[6] They investigated the blood pressure in 74,000 persons gainfully employed in 16 industrial plants and air force fields (civilian personnel), and 16,000 of these readings were used as a sample for statistical analysis.

In our report we shall present data concerning the frequency of obesity in coronary disease and hypertension in a large series of cases. We have used the limits of normal blood pressure recently proposed.[6] We also employed, as controls, the new weight tables obtained in the large series of gainfully employed persons (table 1) by comparison with the standard weight tables established in 1912.[7] This large series is representative of the present general population. It will be noticed that, after the age of 40, women are definitely more obese than men (table 1).

MATERIAL

We investigated the frequency of obesity in essential hypertension, angina pectoris, coronary insufficiency, and coronary occlusion among unselected private patients, in all of whom the height and weight were known (table 2). They were grouped as underweight (10% or more), average weight, overweight (10 to 24% above average), and obese (25% or more above average) according to the standard weight tables established in 1912 and those employed generally. The frequency of each weight group in our cases was then compared, according to age, with similar weight classifications determined in the series mentioned above.[6] The ages of the patients in

TABLE 1.—*Classification of Employed Persons by Weight and Age*

Age and Weight Group	Men, % of Total	Women, % of Total
20-29, Total	100.0	100.0
Underweight, 10% or more	22.5	28.5
Average weight	55.0	50.8
Overweight, 10-24%	16.6	11.2
Overweight, 25% or more	5.9	9.5
30-39, Total	100.0	100.0
Underweight, 10% or more	27.2	26.7
Average weight	48.9	43.6
Overweight, 10-24%	17.5	15.1
Overweight, 25% or more	6.4	14.6
40-49, Total	100.0	100.0
Underweight, 10% or more	32.9	28.4
Average weight	47.8	43.0
Overweight, 10-24%	14.0	16.0
Overweight, 25% or more	5.3	12.6
50-59, Total	100.0	100.0
Underweight, 10% or more	35.3	29.7
Average weight	46.7	42.0
Overweight, 10-24%	13.5	16.7
Overweight, 25% or more	4.5	11.6
60-64, Total	100.0	100.0
Underweight, 10% or more	33.8	34.0
Average weight	44.0	40.0
Overweight, 10-24%	12.6	16.7
Overweight, 25% or more	4.6	9.0
Total, all ages (20-64)	100.0	100.0
Underweight, 10% or more	30.3	29.4
Average weight	48.6	43.9
Overwight, 10-24%	14.8	15.1
Overweight, 25% or more	5.3	11.5

From the Cardiographic Department, Mount Sinai Hospital.

Because of lack of space, the bibliographic references have been omitted from THE JOURNAL and will appear in the authors' reprints.

Mr. Herbert H. Marks, the Metropolitan Life Insurance Company, New York, gave statistical assistance, and Miss Iris Kanner helped collect the data.

the group serving as controls ranged between 20 and 64 years, and 90% of our patients also fell within these limits.

Obesity and Coronary Disease.—There is considerable difference of opinion concerning the relationship between obesity and coronary disease. Some authors have stated that coronary artery disease and occlusion are commoner in those who are overweight.[8] Among Army officers, cardiovascular renal disease was found to develop much more frequently in those who were overweight.[9] In Wilens' postmortem material,[10] advanced coronary artery disease was much more frequent among the obese and was found in only 6.7% of those whose nutritional status was poor. Yater and associates [11] and Gertler and co-workers,[12] however, were unable to establish an etiological relationship between obesity and coronary artery disease in young patients. Gertler and co-workers, in somatotype studies, found that coronary disease and occlusion are apt to occur in persons of mesomorphic habitus, i. e., those with well-developed musculature, rather than in the obese.

TABLE 2.—*Weight of Patients with Angina Pectoris, Coronary Insufficiency, Hypertension, and Coronary Occlusion with Relation to Standard Weight*

Disease According to Weight Group	Men, % of Total		Women, % of Total	
	Sample	Control	Sample	Control
Angina pectoris				
Underweight	12.0	30.3	29.0	29.4
Average weight	49.0	48.6	52.0	43.9
Overweight	32.0	14.8	15.0	15.1
Obese	7.0	5.3	4.0	11.5
Total cases, men	100		...	
Total cases, women	...		100	
Coronary insufficiency				
Underweight	4.4	30.3	11.5	29.4
Average weight	55.6	48.6	61.8	43.9
Overweight	33.6	14.8	19.2	15.1
Obese	5.4	5.3	7.5	11.5
Total cases, men	113		...	
Total cases, women	...		26	
Hypertension				
Underweight	10.3	30.3	17.6	29.4
Average weight	51.5	48.6	51.0	43.9
Overweight	32.2	14.8	15.7	15.1
Obese	6.0	5.3	15.7	11.5
Total cases, men	118		...	
Total cases, women	...		51	
Coronary occlusion				
Underweight	8.0	30.3		
Average weight	43.0	48.6		
Overweight	33.0	14.8		
Obese	16.0	5.3		
Total cases, men	100			

We divided our patients with coronary disease into three groups; those with angina pectoris, acute coronary insufficiency, or acute coronary occlusion. Episodes of coronary insufficiency are severer than angina pectoris and often simulate coronary occlusion.[13] Coronary insufficiency, however, differs from coronary occlusion in cause, pathological changes, electrocardiographic findings, and treatment. Coronary insufficiency occurs when the coronary flow is inadequate to meet the demands of the heart muscle and is, therefore, induced by conditions increasing the work of the heart, reducing the coronary flow, or diminishing the oxygen content of the blood. There is no acute occlusion of a coronary artery. Focal areas of necrosis may appear in the subendocardial area. Treatment is directed against the precipitating condition, e. g., repeated transfusions are given for sudden hemorrhage. Coronary occlusion, on the other hand, occurs spontaneously, and its therapy is symptomatic.[14]

Angina Pectoris.—There were 100 men and 100 women with angina pectoris, but none had suffered a severe acute episode necessitating bed rest. There was a significant increase in the proportion of overweight men as compared with the controls, the ratio being 39 to 20 (table 2). On the other hand, the proportion of obese women with angina pectoris was even less than in the control group.

Coronary Insufficiency.—One hundred thirty-nine patients, of whom 113 were men, had experienced one or more attacks of acute coronary insufficiency, e. g., pain associated with RS-T depression and T-wave changes in the electrocardiogram that disappeared after a number of days. This type of change indicated ischemia or necrosis of the subendocardial area without acute thrombosis of a coronary artery. As in angina pectoris, the proportion of overweight men with acute coronary insufficiency was almost double that in the control group the ratio being 39 to 20% (table 2). No difference was found in the women.

Coronary Occlusion.—In taking the histories of patients with previous coronary occlusion, those with large Q-waves and RS-T elevation in their electrocardiograms, it was found that the vast majority of them had been placed on strict diets after the attack and that they had lost a great deal of weight. As a result, they showed the same frequency of obesity as did the controls; therefore, the weight prior to the attack was individually determined in 100 men. They showed a definite increase in frequency of overweight, 33 to 14.8%, and of obesity, 16 to 5.3%, as compared to the normal group (table 2). Weights were obtained in an insufficient number of women for statistical purposes.

Essential Hypertension and Obesity.—Numerous statistical studies have conclusively shown that the blood pressure, particularly the systolic, is significantly higher in normal obese persons than in those who are of average weight or underweight.[15] This has recently been shown to be true also in the rat.[16] Similarly, hypertension occurs more frequently in the obese.[17] In 1,332 healthy men, Huber [15b] found that 18% of those who were overweight had high blood pressure while almost half of those who were 10% underweight had a subnormal blood pressure. Levy and his associates [9b] noted that sustained hypertension developed in obese Army officers two and one-half times as frequently as in men not overweight. Furthermore, it has been shown that a reduction in weight is often followed by a fall in blood pressure in both normal and hypertensive persons.[18] A loss of 10 lb. (4.5 kg.) was found to cause an average drop of 15 mm. Hg in the systolic pressure and 10 mm. Hg in the diastolic pressure.[18b] Moschcowitz [18c] has suggested that in obesity hypertension is a compensatory effect to meet the increased burden on the heart, which may not keep pace in size and weight with the growth of the body. This theory would account for the drop in blood pressure after loss of weight and for the tendency of thin persons to have low blood pressure.

Among the 1,000 patients studied, there were 169 with hypertension, according to the recent criteria of Master, Dublin, and Marks.[6] One hundred eighteen were men and 51 were women. Among the men, overweight was decidedly more frequent than it was among the general population, the ratio being 32.2% to 14.8% (table 2). The percentage of distinctly obese men, those whose weight was 25% or more above the standard, however, was the same in the hypertensive and control groups, 6 to 5.3%. There was no significant difference in the frequency of obesity among the hypertensive women and the control group; the figures were 31.4 and 26.6% (table 2).

COMMENT

The literature and our own findings, in this and previous investigations, clearly indicate the importance of avoiding obesity in cardiovascular disease. In patients who are overweight, the mortality rate is twice that of average or underweight patients.[10] Obesity increases the basic work of the heart and thus places a strain on it.

It is apparent that hypertension, as defined by the new criteria, is found more commonly in obese men than in those who are of average weight or who are underweight, but the exact relationship between hypertension and obesity remains obscure. There is no definite evidence that the obesity is causally related to the hypertension. It may be that the factors resulting in hypertension also produce obesity, e. g., emotional influences, faulty metabolism, or a hormone disturbance. It is questionable that obesity is ever the sole factor in the development of hypertension, for it is quite common to find a normal blood pressure in the presence of excessive obesity. There is no doubt, however, that overweight is detrimental when the blood pressure is already elevated and that improvement usually follows a loss of weight.

Overweight is also much commoner among men who suffer from coronary disease than in the control groups.[10] This fact does not necessarily prove a causal relationship; other suggestive evidence has been presented by Gofman and Jones.[20] They found the S_f 35-100 particles in the blood were moderately related to obesity and that the S_f 12-20 particles showed a lesser, but yet significant, relation to obesity. Since these particles are increased in patients with coronary sclerosis, they concluded that obesity was related to this disease.

In cardiac disease, obesity predisposes the patient to anginal pain and congestive failure. It has been shown that obesity increases oxygen consumption, cardiac rate, blood pressure, and cardiac work. It reduces work tolerance, cardiac reserve, and vital capacity after exercise.[1] Conversely, loss of weight is usually very beneficial to obese patients with cardiac disease; their cardiac reserve is increased and their symptoms may disappear for long periods.[1] It is significant that we found a low incidence of overweight among patients who had made a long-lasting, complete functional recovery from coronary occlusion and insufficiency.[21] In these patients, the avoidance of overweight probably was a factor in the complete functional recovery from severe acute episodes of coronary disease.

A surprising finding in our cases was the failure of the women to show a greater proportion of overweight than the controls. Although this observation is being investigated in a large number of women before it is accepted, it suggests that in women, unlike men, the development of hypertension and coronary disease does not depend on obesity. The reason for this possible difference between the sexes is not obvious. We have mentioned one observation that is of possible significance, the proportion of obesity in the control group was much higher in the women than in the men.

SUMMARY AND CONCLUSIONS

The relation of obesity to heart disease is reviewed. The harmful influence of obesity on the normal and on the diseased heart is well established. Persons with heart disease or hypertension who are obese have a much higher mortality rate than those who are of average weight or below.

New standards of weight and of hypertension for the general population were employed in this investigation. These recently established limits are more representative of the present population than the figures previously employed. The frequency of obesity in patients with heart disease in private practice was ascertained. There was a definite increase in the relative frequency of overweight in men with coronary disease, including angina pectoris, coronary insufficiency, and coronary occlusion. Obesity is a strain on the heart and is capable of aggravating coronary disease. On the basis of the new criteria of hypertension, overweight occurred more frequently among men with hypertension than among the general population.

In women, obesity was not more frequent than in the normal population. This observation is being investigated in a large series of women. The reason for the possible difference between the sexes is not obvious It may be significant that the proportion of obesity in the control population is higher in women than in men. The development of coronary disease and hypertension in women may not be influenced by obesity.

Although obesity occurs more commonly in patients with hypertension or coronary disease, no definite conclusion concerning the etiological relationship between obesity and these diseases can be drawn. The reports in the literature and our own observations, however, clearly indicate the importance of avoiding obesity in cardiovascular disease.

Fifth Ave. at 100th St. (29) (Dr. Master).

Widowhood.—Where husband and wife are the same age, the chances that the wife will outlive her husband are 60 to 100, but they rise to 70 where the husband is 5 years older, and to almost 80 if he is her senior by 10 years. Widowhood is practically a certainty for wives 20 or more years younger than their husband, the chances in such extreme instances being of the order of 90 in 100. Only if the wife is at least 5 years older than her husband are the odds against her being widowed. The median age at which wives enter widowhood is about 56 years. However, a significant number are much younger when their family life is disrupted by the death of the husband; almost one-quarter of the new widows each year are under age 45. Although widowhood has been postponed to the older ages, most women still have many years of life ahead of them after their husband dies. . . . Three quarters of the women who are widowed at age 50 will live 20 years longer; that many years of life also remain for nine out of every 10 wives bereft of their mates before age 40. Even at age 65, fully one half of the widows can expect to survive for 15 years and almost one third for 20 years.—Metropolitan Life Insurance Company, Widowhood and Its Duration, *Statistical Bulletin*, September, 1953.

[illegible] of Medical College

EVALUATION OF ADRENAL RESECTION AND SYMPATHECTOMY IN NINETY-NINE PERSONS WITH HYPERTENSION

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Alfred M. Sellers, M.D.
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This study was begun in March, 1950, after a subtotal adrenalectomy was completed in a patient in whom severe hypertension had recurred one year after a thoracolumbar sympathectomy was performed. As our series of patients increased, we reported encouraging results [1] after employing various types of sympathectomy and various degrees of adrenal resection. This analysis includes 99 such patients followed for from 1 to 37 months after operation. It is our present feeling that sympathectomy combined with adrenalectomy is more effective than either sympathectomy or adrenalectomy alone. We feel, however, that further observations are required to prove or disprove this impression.

INDICATIONS AND CONTRAINDICATIONS

We have required that all three of the following indications be present before operation is attempted. 1. Average diastolic blood pressures should be 120 mm. Hg or more. 2. There should be failure to respond to intensive medical therapy. 3. There should be evidence of progressive damage to the heart, kidneys, brain, or eyes. From our experience to date, any one of the following factors is a contraindication to operation: (1) poor renal function, with excretion of less than 20% of phenolsulfonphthalein 15 minutes after intravenous injection, and/or a blood urea nitrogen of over 20 mg. per 100 cc., (2) convalescence from a stroke or coronary occlusion for less than six months, (3) age above 55 years, and (4) inability of the patient to cooperate in a careful postoperative program because of intellectual deficit or emotional instability.

TYPES OF OPERATIONS PERFORMED

The Peet sympathectomy and the modifications c the Adson and Smithwick procedures that one of ı (H. A. Z.) has performed in these patients are illustrate in figure 1. The modified Adson sympathectomy include removal of the 12th thoracic and the upper two lumba sympathetic ganglions, together with interruption of th three splanchnic nerves. The modified Smithwick sympathectomy includes removal of the lower six or seve thoracic ganglions and the three lumbar ganglions, tc gether with excision of the three splanchnic nerves abov the diaphragm. With but few exceptions, operations wei performed through a retroperitoneal incision in two stage about 10 days apart.

TABLE 1.—*Types of Operations Performed in Ninety-Ni Patients*

Subtotal adrenalectomy	
Alone (SA)	11
With Adson sympathectomy (SA-ADN)	49
With Smithwick sympathectomy (SA-SMK)	8
With Peet sympathectomy (SA-PEET)	1
With Adson sympathectomy on one side and Smithwick on the other (SA-MIXT)	4
Total adrenalectomy	
Alone (TA)	2
With Adson sympathectomy (TA-ADN)	21
With Smithwick sympathectomy (TA-SMK)	3
Total	99

After observing the results of various types of adrena resection in the first 10 patients, it was found that sufficient adrenal tissue had been removed when a fragmen equivalent to a 5 or 6 mm. cube remained adjacent to th adrenal vein on the left side and when all of the righ adrenal gland had been removed. This is our meanin of subtotal adrenalectomy with respect to most of th patients who had combined subtotal adrenal resectio and sympathectomy. The various types of operation performed on the 99 patients of this series are listed i table 1.

A relatively large number of patients has been followe for not more than six months, and few have been followe for as long as 37 months. The duration of postoperativ observation at six month intervals is shown in table 2

METHOD OF EVALUATION

Our classification of the status of patients after operation included four groups—A, excellent, B, fair, C, poor, and D, failure. Group A included persons with blood pressures less than 150/100 mm. Hg both lying and standing. Group B included those with blood pressures more than 150/100 lying but less than 150/100 standing. Group C included patients in whom the blood pressure was essentially unchanged after operation. Signs and

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From the Edward B. Robinette Foundation, Medical Clinic, and the Surgical Service of the Hospital of the University of Pennsylvania.

Read before the Section on Internal Medicine at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

Drs. Francis C. Wood and I. S. Ravdin have given generous assistance and encouragement since the inception of this project.

Misses Nelly Jane Keffer, Janet Merrill, and Henrietta Brandt made daily blood pressure readings when patients were in the hospital and on return visits. They helped prepare some of the tables.

This investigation was supported in part by research grants from the National Heart Institute, the U. S. Public Health Service, the Squibb Institute of Medical Research, Sandoz Pharmaceuticals, Eli Lilly and Company, Ciba Pharmaceutical Products, Inc., Merck and Company, Inc., and the Publicker Industries Nutritional Fund.

The Upjohn Company, Kalamazoo, Mich., supplied the adrenal cortical extract used in this study; Merck & Company, Inc., Rahway, N. J., the aqueous suspension and tablets of Cortone; and Ciba Pharmaceutical Products, Inc., Summit, N. J., and Schering Company, Bloomfield, N. J., the DCA for both oral and parenteral use.

[1] (*a*) Lukens, F. D. W., and others: Observations on Subtotal Adrenalectomy in Hypertension, Tr. Am. Clin. Climatol. A. **62:** 229, 1950. Wolferth, C. C., and others: Observations on the Results of Subtotal Adrenalectomy in the Treatment of Severe, Otherwise Intractable Hypertension and Their Bearing on the Mechanism by Which Hypertension Is Maintained, Ann. Int. Med. **35:** 8 (July) 1951. Zintel, H. A., and others: Ninety-five Per Cent Subtotal Adrenalectomy for Essential Hypertension, Surg. Forum, Proc. Clin. Cong. Am. Coll. Surg. 1950, p. 556. (*b*) Wolferth, C. C., and others: Effects of Subtotal Adrenalectomy Alone and Combined with Sympathectomy upon the Blood Pressure Levels and Complications of Severe Arterial Hypertension, Bull. New York Acad. Med. **29:** 115 (Feb.) 1953. (*c*) Jeffers, W. A., and others: The Clinical Course, Following Adrenal Resection and Sympathectomy, of 82 Patients with Severe Hypertension, Ann. Int. Med. **39:** 254 (Aug.) 1953.

symptoms were, however, improved in patients in this group. Group D consisted of patients in whom the blood pressure, signs, and symptoms were unchanged after operation. Careful and repeated postural blood pressure tests[2] are essential for this classification. In addition, repeated clinical examinations and special laboratory tests have been performed before and after operation.

Table 2.—*Duration of Follow-Up After Operation Among Ninety-Nine Patients*

Months	No. of Patients
0- 6	41
7-12	18
13-18	22
19-24	0
25-30	12
31-37	6

RESULTS

Figure 2 shows the results now apparent in relation to various combinations of sympathectomy and adrenalectomy and to adrenalectomy alone. Patients who died, even though they may have shown temporary improvement, are included in this analysis only as mortalities. It is evident that we have concentrated on testing the effect of an Adson sympathectomy combined with either total or subtotal adrenalectomy. We have also classified our patients prior to operation according to the semiquantitative grading system devised by Smithwick.[3] Its usefulness is suggested (table 3) by the relatively poor results among those with the poorest prognosis (Smithwick group 4); on the other hand, it is of interest that 6 of 52 patients, initially in Smithwick group 4, have shown an excellent response up to this time.

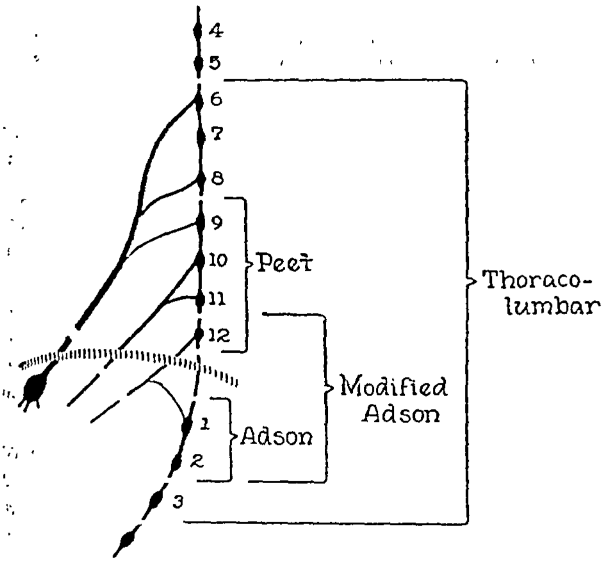

Fig. 1.—Types of sympathectomy commonly employed for the treatment of hypertension. The so-called total sympathectomy of Grimson is not included in this diagram. (Reproduced with permission from the *Annals of Internal Medicine*, August, 1953.)

Since 52, or over half, of our patients fell into Smithwick group 4, the loss of 24 of them within 37 months after operation was not unexpected. An operative mortality of only 8%, within a month after operation, seems creditable. The usual cause of death was a cerebral vascular accident or a coronary occlusion. Only one patient died from adrenal insufficiency.

Table 4 shows the percentile incidence of improvement with respect to heart size (45%), ocular fundi (45%), electrocardiographic abnormalities (41%). As improvement we included any persistent diminution in the heart's frontal area, any persistent decrease in the grade of retinopathy, and any progressive tendency for abnormalities of the QRS and T-waves to revert toward normal. Of 56 patients adequately studied, 10 showed no albuminuria and 25 no cylindruria before or after operation. In 10 albuminuria and in 6 cylindruria was present in the same degree before and after operation. In six albuminuria and in eight cylindruria was more abnormal after than before operation. In 30 albuminuria and in 17 cylindruria was less abnormal after operation than before. Of the 30 showing less albuminuria, only 7 had a change from 3 plus

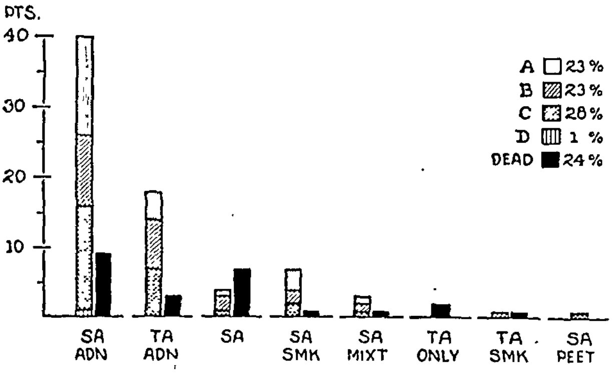

Fig. 2.—Types of operations performed and results of those procedures in 99 patients with severe hypertension.

Table 3.—*Classification of Postoperative Result in Relation to Preoperative Smithwick Group*

Smithwick Group	Our Group A	B	C	D	Dead
1	0	0	0	0	0
2	12	7	7	1	2 (7%)
3	5	8	3	0	2 (11%)
4	6	8	18	0	20 (38%)
Totals	23	23	28	1	24

Table 4.—*Incidence of Improvement in Heart Size, Retinopathy, and Electrocardiographic Abnormalities in Seventy-Five Surviving Patients*

Operative Procedure	No. of Patients	Heart Size, %	Retinopathy, %	Electrocardiographic Abnormalities, %
SA	4	50	25	75
SA-SMK	7	86	100	43
SA-ADN	40	43	50	43
SA-PEET	1	100	100	0
SA-MIXT	3	67	0	100
TA-ADN	18	22	22	22
TA-SMK	2	100	50	50
Total or average	75	45	45	41

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[2] Jeffers, W. A.; Sheiman, S. C., and O'Brasky, G. H.: Use of a Simple Postural Test in Neurocirculatory Asthenia, Am. J. M. Sc. 210: 511 (Oct.) 1945.

[3] Smithwick, R. H.: The Effect of Sympathectomy upon the Mortality and Survival Rates of Patients with Hypertensive Cardiovascular Disease, in Hypertension, edited by E. T. Bell, Minneapolis, University of Minnesota Press, 1951, p. 429.

to 1 plus or less. Fourteen had only a trace of albumin prior to operation, with none detected after operation. Improvement with respect to cylindruria was observed less frequently. A sufficient number of urinalyses were not available to warrant similar comparison in the remaining 43 patients. There has not been, to date, consistent evidence of improvement in renal function, as measured by repeated phenolsulfonphthalein tests or by special clearance studies.

Table 5.—*Postoperative Course of Forty Patients Who Had Paroxysmal Dyspnea and Congestive Heart Failure Before Operation*

		Postoperative				
					Dead	
	Preoperative	A	B	C	Heart Failure	Other Causes
Paroxysmal dyspnea...	19	5	5	4	0	5
Frank heart failure....	21	3	4	7	0	7

The clinical course of patients who had angina pectoris or a coronary occlusion prior to operation was also studied. All of those with only mild angina were relieved of this symptom. Patients with severer coronary disease have shown at best a variable course. Of eight patients with frequent attacks of angina preoperatively, three were relieved of angina, three survived coronary occlusions, and one died from a coronary occlusion. Five patients, in whom angina had not been present preoperatively, died from coronary occlusions after operation.

The fate of patients who showed congestive heart failure or paroxysmal dyspnea prior to operation is shown in table 5. It became apparent early in our study [4] that a tendency toward heart failure was apt to be corrected after this operation, and this has continued to be a striking phenomenon.

It appears proper to continue to operate on patients who have had a good recovery from cerebral vascular accidents for at least six months. Table 6 indicates the course of patients with evident cerebral vascular damage.

REPLACEMENT THERAPY

Our observations to date indicate that a favorable response to adrenal resection, either alone or combined with sympathectomy, is infrequent unless sufficient adrenal tissue has been removed to render the patient susceptible to adrenal insufficiency when cortical replacement therapy and salt are withdrawn. Hills and co-workers [5] have made a quantitative estimation of residual adrenal function in 10 patients after operation. They used a method developed for the purpose.

Table 6.—*Postoperative Course of Nineteen Patients Who Had Preoperative Cerebral Vascular Damage*

		Postoperative					
						Dead	
	Preoperative	A	B	C	D	Stroke	Other Causes
Without residuals..............	9	2	4	1	1	1	0
With residuals...................	10	1	1	4	0	3	1

Table 7 gives a schedule of the amounts of cortisone, desoxycorticosterone (DCA), and sodium chloride used in connection with operation. During the first month after operations that include extensive adrenal resection, a liberal amount of cortical replacement therapy has been given, if blood pressures are not higher than 180/100 mm. Hg or there is the usual marked fall in blood pressure on standing. This may include cortisone, 37.5 to 50 mg. in divided dosage daily, desoxycorticosterone, 2 mg. buccally, and enteric-coated tablets of sodium chloride, 3 to 6 gm. daily. Later, the dosage of cortisone, salt, and desoxycorticosterone is diminished in each patient to achieve an optimal level of blood pressure, while avoiding anorexia, nausea, or hyperkalemia. With the onset of warm weather, an increase in the amount of replacement therapy is necessary. Patients are instructed to report anorexia or nausea promptly to their physicians and to seek medical care without delay in the event of a respiratory infection or other febrile episode, in order that replacement therapy can be increased temporarily.

Table 7.—*Schedule of Replacement Therapy Used in Connection with Second Operation of Total or Subtotal Adrenalectomy*

	Cortisone	Desoxycorticosterone (DCA)	Other
Day of operation	50 mg. intramuscularly just before operation; repeat 6 hr. after operation	0	2,000 cc. 5% dextrose in water slowly, 1,000 cc. 5% dextrose in sodium chloride solution slowly, or 1,000 cc. blood
First postoperative day	50 mg. intramuscularly every 12 hr.	0	As above
Second and third postoperative day	25 mg. orally every 8 hr.	2 mg. buccally	1-2 gm. orally after each meal
Fourth postoperative day	25 mg. orally every 12 hr.	As above	As above

COMMENT

The operative approach for the treatment of severe hypertension that we have chosen to follow is an attempt to combine the possible benefits of sympathectomy of the Adson or Smithwick type with subtotal or total adrenalectomy. The Adson sympathectomy, combined with adrenal resection and performed in two separate stages, has been well tolerated by most patients who have had adequate preservation of renal function. Their convalescence has been marked by its ease and freedom from the pulmonary complications and prolonged backaches that may follow thoracolumbar sympathectomy. It will require further observation to establish whether, or under what circumstances, this type of operation will prove superior in the long run to (1) thoracolumbar sympathectomy, (2) thoracolumbar sympathectomy plus subtotal or total adrenalectomy, or (3) total adrenalectomy alone.[6]

Operations of this sort cannot be attempted without a well-integrated medical and surgical team that is prepared to deal not only with all surgical complications but with any of the manifestations of severe hypertensive cardiovascular disease or adrenal insufficiency. In the case of each patient, a prolonged and careful follow-up is obligatory. A member of the team must be on call at all times, and he must be prepared to treat acute adrenal insufficiency or any other emergency. We have encountered to date no greater difficulty in managing patients after total adrenalectomy than after subtotal adrenalectomy. Our patients do not appear to lack energy and vigor for their full work loads unless they have cardiovascular complications. The only symptom frequently mentioned is a mild intolerance to cold.

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[4] Wolferth, C. C., and others: Effects of Subtotal Adrenalectomy With or Without Sympathectomy upon the Course of Congestive Heart Failure, read before the American Heart Association, Atlantic City, N. J., April 11, 1953. Wolferth and others.[1b]

[5] Hills, A. G., and others: Quantitative Evaluation of Primary Adrenal Cortical Function in Man, Am. J. Med., to be published.

[6] Thorn, G. W., and others: Clinical Studies in Bilateral Complete Adrenalectomy in Patients with Severe Hypertensive Vascular Disease, Int. Med. 37: 972 (Nov.) 1952.

SUMMARY AND CONCLUSIONS

The results of various degrees of adrenal resection with and without various types of sympathectomy in 99 patients with severe hypertension are reported. To be eligible for operation patients fulfilled all of the following qualifications. They had (*a*) an average diastolic blood pressure of 120 mm. Hg or more, (*b*) lack of response to intensive medical therapy, and (*c*) evidences of progressive vascular damage. Tentative contraindications include any one of the following factors: (*a*) poor renal function, (*b*) less than six months' convalescence from a stroke or coronary occlusion, (*c*) age over 55 years, or (*d*) inability, for any reason, to cooperate in taking adrenal cortical replacement therapy.

The majority (70) of patients were subjected to an Adson sympathectomy, plus either subtotal or total adrenalectomy. In the case of subtotal adrenalectomy, all adrenal tissue was removed except a piece about 6 mm. in diameter adjacent to the adrenal vein on the left side. Operations were performed through a retroperitoneal incision and in two stages about 10 days apart. Further observation must be made to determine whether the Adson sympathectomy, combined with total or subtotal adrenalectomy, is more or less effective than thoracolumbar sympathectomy or total adrenalectomy without sympathectomy.

During the period of postoperative observation of the 99 patients, 23% showed an excellent response, 23% a fair response, and 30% a poor response; 24% died. Only one patient died from uncomplicated adrenal insufficiency; the usual cause of death was a stroke or a coronary occlusion. Patients with paroxysmal dyspnea or congestive heart failure prior to operation showed the most striking improvement. This appears to be primarily the result of extensive resections of adrenal cortex. Most of those subjected to subtotal adrenalectomy required adrenal cortical replacement therapy after operation. Objective changes have been observed in the heart size, retinopathy, and electrocardiographic findings. Precautions necessary for the successful management of patients subjected to these procedures are discussed.

36th and Spruce st. (Dr. Jeffers).

PROBLEM OF THE GASTRIC ULCER REVIEWED

STUDY OF ONE THOUSAND CASES

Frances H. Smith, M.D., Russell S. Boles Jr., M.D.
and
Sara M. Jordan, M.D., Boston

The problem of gastric ulcer continues to be a subject of controversy because of the association of this disease with cancer of the stomach. Since surgeons and gastroenterologists are so often confronted with the grim and frustrating circumstances that surround the diagnosis and treatment of gastric cancer, it is natural that any lesion of the stomach should be considered potentially malignant. Such fear is indeed justified if it breeds a vigilance that may result in the early detection of cancer; however, it must not be forgotten that benign ulcers of the stomach with potentiality of complete healing do occur.

Ulcerating lesions of the stomach fall into one of two categories: (1) ulceration in an infiltrating lesion, grossly recognized as malignant, and (2) ulceration with an appearance of peptic ulcer. The disposition of the first group is, of course, to immediate surgery, with the hope that operation is possible and the condition is still without metastatic involvement. In the second group, the peptic ulcer that may be benign can be finally diagnosed as such only when histological examination or adequate clinical evidence of healing furnishes proof of this diagnosis. And it is over this point that there is controversy. Some physicians believe that excision of the lesion and histological examination are the only proof of diagnosis and the only guarantee of safety, while others believe that intensive treatment under observation and inspection of healing is adequate proof that the lesion is a benign ulcer, which, when healed, carries no potential danger of malignancy.

CASE MATERIAL

This study deals with 1,000 patients who had gastric lesions of this second group that, when first seen, could reasonably be regarded as benign ulcers. It is our intention to indicate by statistics the fate of these 1,000 patients. Most of the cases previously reported [1] by two of us (1948) are included. In the present study, 578 patients were operated on and 422 had medical treatment alone. There were 912 (91.2%) patients with benign gastric ulcer and 88 (8.8%) with malignant ulcer. In the group of 912 patients, 635 (70%) were male and 277 (30%) were female. Of the 88 patients with malignant ulcer, 64 (73%) were male and 24 (27%), female.

The ages of the patients included in this study ranged from 10 to 89 years. Their distribution followed the expected pattern since the ages of the largest number of patients with benign and malignant ulcers, both surgically and medically treated, fell in the sixth decade. In the

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From the Department of Gastroenterology of the Lahey Clinic.

Read before the Section on Gastroenterology and Proctology at the 102nd Annual Meeting of the American Medical Association, New York, June 2, 1953.

[1] Smith, F. H., and Jordan, S. M.: Gastric Ulcer: Study of 600 Cases, Gastroenterology 11:575-597 (Nov.) 1948.

surgically treated group, the ages of five patients with benign ulcers and four with malignant ulcers were in the third decade. In this group, there was one patient with benign ulcer whose age was in the ninth decade. Among the patients who had medical treatment only, the ages of three with benign ulcers were in the second decade and of six in the ninth decade.

Gastric resection was performed in 474 patients with benign gastric ulcer, and in 7 of these all of the stomach was removed. Gastric resection was performed on 60 patients with malignant ulcers, and nine total gastrectomies were performed in this group. In 23 patients with benign ulcers and 21 patients with malignant ulcers, other surgical procedures, including exploratory laparotomy, repair of perforation, gastroenterostomy, and ligation of a bleeding artery, were used. There were 415 patients with benign gastric ulcers and 7 patients with malignant gastric ulcers who had medical treatment only. Of 578 patients who had surgical intervention, 541 were operated on within five years after their first admission, and of this group 512 had gastric resection. Thirty-seven patients, of whom 22 had resections, were operated on later than five years after their first admission. Two hundred twenty-four patients were treated medically and followed for five years or less, and 198 patients were treated medically and followed for more than five years.

Table 1.—*X-ray Location of Gastric Ulcer in 963 Patients*

	Benign		Malignant	
	No.	%	No.	%
Fundus	45	5.2	5	6.0
Media	518	58.9	47	55.9
Antrum	96	10.9	13	15.5
Prepylorus	157	17.8	14	16.6
Pylorus	63	7.2	5	6.0
Total	879	100	84	100

It is striking in this study that there was no significant difference in the weight loss in the groups with benign and malignant ulcer; 35% of the patients with malignant ulcer and 37% with benign had lost no weight. Approximately 42% of the patients with benign or malignant ulcer lost 11 lb. (5 kg.) or more, and marked loss of weight (20 lb. [9.1 kg.] or more) was found in about 19% in both groups. The deduction from these statistics was, therefore, that although loss of weight occurred with malignant gastric ulcer in 65% of the patients it was of questionable significance as a point of differentiation between a benign and a malignant ulcer since it also occurred with benign ulcer in 62% of the patients.

GASTRIC ANALYSIS

Since histamine stimulation was not used in most of the 867 patients who had gastric analysis, the results may be considered to represent functional secretion. In the group with malignant ulcer, the percentage of patients with achlorhydria (8.8%) was only 3% less than that of patients with hyperchlorhydria (11.8%), and the largest percentage (57.3%) was in the normal range of acidity. In the group with benign ulcer, the largest number of patients was in the normal range, but 5.1% had lorhydria.

X-RAY EXAMINATION AND GASTROSCOPY

Although malignant ulcers are found to occur anywhere in the stomach, ulcers in certain areas, notably the prepylorus and the greater curvature, are generally considered to have a much greater incidence of malignancy. In our present study, 22.6% of benign ulcers and 28.1% of malignant ulcers were located in the prepylorus on pathological examination. These figures differ from those that would have been derived from roentgenologic study alone, as the following discussion shows.

In 37 patients of the series of 1,000 cases the diagnosis of gastric ulcer was not proved or reported preoperatively, chiefly because operation was done for acute abdominal conditions or obstruction. Of the 963 patients who had x-ray examination, 515 (451 with benign ulcer and 64 with malignant) were operatod on and the actual location was reported by the pathologist (table 1). Roentgenograms showed that the benign ulcers of 97 patients were in the prepylorus and of 44 patients were in the pylorus. Of the 97 prepyloric lesions, 11 were found by the pathologist to be pyloric, which made 86 prepyloric and 55 pyloric lesions. Of the 44 ulcers reported to be in the pylorus by roentgenograms (actually 55), 16 were found by the pathologist to be prepyloric, which left 39 pyloric lesions and 102 prepyloric lesions.

Since the lesions in 451 patients who had resection performed were benign and 102 of these were proved by the pathologist to be prepyloric, the percentage of proved benign prepyloric ulcers was 22.6. In the group with malignant ulcer, 14 patients had lesions diagnosed by x-ray examination as prepyloric but one lesion was actually pyloric. Five lesions were called pyloric but were demonstrated to be prepyloric, so that in 18 (28.1%) of the 64 patients with malignant ulcer the lesion was actually prepyloric. Seventeen of the 451 benign gastric lesions that were resected were shown in roentgenograms to be on the greater curvature, but only 4 were thus described by the pathologist. It is interesting to note that the percentage of benign lesions of the media was 48 and the percentage of the malignant lesions in that area was 52. Eight of 64 malignant lesions operated on were shown in roentgenograms to be on the greater curvature. These were confirmed in the pathological examination.

By means of roentgenograms coexistent duodenal deformities were reported in 19.7% (173 of 879 patients) with benign gastric ulcer and in 20.2% (17 of 84) with malignant ulcer. These findings suggested that the demonstration of a duodenal deformity by means of roentgenograms was of no help preoperatively in differentiating a benign from a malignant ulcer. Hourglass deformity was present in 4.3% (38 of 879 patients) with benign gastric ulcer and 7.1% (6 of 84 patients) with malignant ulcer, a ratio of 6.33 to 1. Although the percentage difference between malignant and benign hourglass deformity was considerable, the total number (44) in both groups was too small for accurate deduction. In the group of patients with benign gastric ulcer, 2.4% (21 of 879 patients) had multiple ulcers. Twenty of these patients had resection and pathological diagnosis and/or surgical confirmation. In one patient the diagnosis was made with roentgenograms alone. Of the group with malignant ulcer, 1.2% (1 of 84 patients) had more than one gastric ulcer as diagnosed with roentgenograms alone.

In 5.2% of the 1,000 patients studied, gastroscopy was performed. This report includes only those cases in which x-ray visualization and symptoms were highly suggestive of malignancy and in which gastroscopic visualization of the lesion was possible. The gastroscopic diagnosis was verified by pathological examination in 20 patients with benign ulcer and 13 with malignant ulcer. The pathological findings were at variance with the gastroscopic diagnosis in 5 of the benign and 14 of the malignant ulcers.

TABLE 2.—*Reasons for Operation on 578 Patients with Gastric Ulcer*

	Benign		Malignant	
	No.	%	No.	%
Suspected malignancy	201	40.4	43	53.1
Intractability *	103	20.7	15	18.5
Recurrence	81	16.3	15	18.5
Acute hemorrhage	39	7.8	2	2.5
Multiple hemorrhages	14	2.8	1	1.2
Obstruction	50	10.1	4	4.9
Perforation	9	1.8	1	1.2
Total	497		81	

* By intractability is meant persistence of symptoms and x-ray evidence.

RESULTS IN PATIENTS WITH BENIGN ULCER

Although suspected malignancy, recurrence, and intractability were separately listed as indications for operation, in actual fact these categories might overlap, since malignancy was usually suspected when an ulcer was intractable or recurrent. Suspected malignancy was the stated reason for operation in 40.4% of the patients with benign resected ulcer and in 53.1% with malignant ulcer. Recurrence was considered an indication for resection, and table 2 shows that, of the 497 patients who were operated on for benign ulcer, 16.3% had recurrent benign lesions and, of 81 patients with malignant ulcer, 18.5% had recurrent lesions. Perforation, hemorrhage, and obstruction were of higher incidence in the group with benign ulcer than in the group with malignant ulcer.

The clinical evaluation of results as shown in tables 3 and 4 was based on the presence or absence of the following criteria: (1) distress; (2) nausea and vomiting; (3) recurrent ulcer as shown in roentgenogram; (4) hemorrhage; (5) weakness and inability to work and in the surgical group dumping syndrome and persistent diarrhea. The reports were based on clinical records and replies to questionnaires and show results that indicate little difference of morbidity in the surgically and medically treated groups.

RESULTS IN PATIENTS WITH MALIGNANT ULCER

There were 88 patients with malignant ulcer in this study. Sixty had resection; 21 who could not have resection underwent other surgical procedures, such as gastroenterostomy, suture of perforation, ligation of an artery, or exploratory laparotomy. In 30 patients the operation was performed within a week after the time the patient was first seen; 21 patients were operated on within a month; 8 patients were operated on from one to two months after their first admission, 6 of these in the years between 1935 and 1945 and 2 in 1951. Four patients had operations within two to four months, three between the years 1938 and 1945, and one in 1949. Five patients were operated on between four months and one year after their first admission, four between the years 1931 and 1944, and one in 1951. Ten patients were not operated on until one to five years after their first admission, nine between the years 1934 and 1946 and one in 1948. Three patients seen between the years 1931 and 1943 were not operated on until five years after their first admission. After 1946, only five patients were treated longer than one month before resection, although in the preceding years 25 patients were maintained beyond one month with medical treatment. Among all the patients maintained beyond one month with medical treatment, 15 had recurrences at intervals of six months to seven years after admission and 5 between one and two years after admission.

Seven patients who were not operated on died with malignant ulcer. The first patient was originally seen in 1924, and a diagnosis of benign ulcer was made. It healed completely under medical management. The patient had no recurrence for 22 years, but at autopsy, 23 years later, carcinoma in situ was found. The second patient, first seen in 1938, could not be treated surgically because of concomitant disease. He died in 1941. The third patient was first seen in 1940; surgery was advised but refused. He died in 1941. The fourth patient was originally seen in 1940 and was followed for nine months at frequent intervals, with clinical and x-ray evidence of complete healing. At autopsy six and a half years later, carcinoma of the stomach was found. The fifth patient was first seen in 1942 and could not have surgical treatment because of concomitant disease. He had apparent healing of his gastric ulcer during medical management, but at his death in 1945 a clinical diagnosis was made of malignant gastric lesion; autopsy was not performed. The sixth patient, first seen in 1943 and managed with ambulatory treatment with complete healing, was reported by his referring physician to have died four years later from a gastric lesion that was suspected of being malignant. No autopsy was performed. The seventh patient, first seen in 1945, refused operation and died in 1952.

TABLE 3.—*Clinical Evaluation of Results in 380 Patients with Resected Benign Ulcer*

	Good		Fair		Poor		
Follow-Up Period	No.	%	No.	%	No.	%	Total
2 mo.-2 yr.	110	83.3	16	12.1	6	4.5	132
2- 5 yr.	102	74.5	23	16.8	12	8.7	137
5-10 yr.	55	70.5	15	19.2	8	10.2	78
10-25 yr.	32	96.9	0	....	1	3.0	33
Total or per cent	299	78.7	54	14.2	27	7.1	380

TABLE 4.—*Clinical Evaluation of Results in 397 Patients with Medically Treated Benign Ulcer*

	Good		Fair		Poor		
Follow-Up Period	No.	%	No.	%	No.	%	Total
2 mo.-2 yr.	107	84.9	6	4.7	13	10.3	126
2- 5 yr.	49	64.5	15	19.7	12	15.8	76
5-10 yr.	70	72.9	14	14.6	12	12.5	96
10-29 yr.	72	72.7	20	20.2	7	7.1	99
Total or per cent	298	75.1	55	13.8	44	11.1	397

RECURRENCES AND MORTALITY

One hundred forty patients had recurrent gastric ulcer; 96 were operated on and 44 were not. In the group that underwent operation 81 had benign lesions and 15 had malignant lesions. Of the 81 patients whose benign lesions were proved pathologically, 10 had more than one recurrence. Three of the group with malignant lesion had more than one recurrence. Of the 44 patients who had recurrence and were not operated on, 41, because of x-ray and clinical evidence of healing, were considered to have had benign gastric ulcers; 7 of these patients had multiple recurrences. Three of the group without operation had malignant ulcers, and one of them had had more than one recurrence. Recurrence was usually considered a definite indication for surgery, and our findings confirmed the validity of this policy, since malignancy was found in 16% of the recurrent ulcers that were operated on, an incidence that is appreciably higher than the over-all incidence of malignant ulcers in the total series (8.8%).

Deaths in the Postoperative Period.—There were 497 patients who had a surgical and/or pathological diagnosis of benign gastric ulcer. Twenty-three (4.85%) of the 474 patients, who had gastric resection, died in the postoperative period. There were 6 postoperative deaths among the 23 patients who had surgical procedures related to their benign gastric lesions. Eleven of the total number of 29 deaths occurred before 1944; of these, 4 were from pulmonary embolism and 7 were in patients over 65 years of age. Eighty-one patients had a surgical ⑪ and/or pathological diagnosis of malignant ulcer. Sixty of these had resection, and two died postoperatively. Twenty-one patients had other surgical procedures and six of these died postoperatively.

Deaths After the Postoperative Period.—Sixty-four patients who were operated on died. Of the 44 patients with benign gastric ulcer in the group, 3 died, cause unknown, after being followed for three, four, and five years, respectively. One patient died of carcinoma of the stomach (proved pathologically) five years after resection for benign ulcer (proved pathologically). Ten died from malignant growths other than gastric cancer. In this group, there were three with carcinoma of the pancreas and one with carcinoma of the rectum. Thirty patients died of known causes unrelated to the stomach: 10 died in less than five years, 3 were followed five years, and 17 were followed more than five years after resection. Of the 20 patients with malignant ulcer, 18 died of carcinoma of the stomach and 2 died of pulmonary embolism after other surgical procedures; one of these died after a resection for jejunal ulcer. Of this group 2 were followed for 6 years, one for 6½ years and one for 11 years before death.

Deaths in the Medically Treated Patients.—Seventy-one patients with gastric lesions originally diagnosed as benign died. In five the cause is unknown. Seven (1.7%) died of carcinoma of the stomach; four of these were treated less than five years and three more than five years. Three patients died from malignant lesion in the digestive tract: one from carcinoma of the liver, the second from carcinoma of the colon, and the third from carcinoma of the esophagus. No evidence of malignant gastric lesion was found in these patients. Eight patients died of carcinoma not related to the digestive tract. Forty-eight patients were known to have died of nonmalignant disease. Eighteen of these 71 patients were followed more than 11 years; 10 were followed from 5 to 10 years.

These statistics indicate that the mortality from cancer of the stomach occurring in the unoperated cases was 1.7% whereas the operative mortality in resected cases for benign ulcer was 4.85%. There were 29 patients (2.9%) in whom death, which was attributable to carcinoma of the stomach, possibly could have been avoided by immediate operation. Of this group, 7 patients had no surgery and 22 were operated on after two months of medical treatment.

If all five patients in the group that did not undergo surgery who died of causes unknown are assumed to have died of cancer of the stomach, although this is hardly probable, this addition brings the percentage up to 3.4, which is still lower than the over-all surgical mortality in benign ulcer (4.85%). It is recognized that surgical mortality has declined in recent years, and that gastric resection has become progressively safer in all age groups. It is, however, also shown in this study that the majority of errors in clinical judgment in medical management occurred chiefly in the same years when surgical risk was high and that medical treatment for differentiation of benign and malignant ulcers has made what might be considered parallel progress with surgery.

SUMMARY AND CONCLUSIONS

One thousand cases of gastric ulcer are presented, 912 benign and 88 malignant. Four hundred ninety-seven patients of the group with benign ulcer were operated on; suspected malignancy was the indication for operation in more than half of these patients. Seven of the group with malignant ulcer were not operated on; in four of these, operation could not be performed in any case. One hundred ninety-five patients with benign ulcer who did not undergo surgery were followed for more than 5 years and, of these, 99 for more than 10 years. Seventy-three per cent of this latter group were without gastric symptoms, and a comparison of the morbidity statistics shows little difference between the results in the groups undergoing operation and those who did not.

It seems reasonable, therefore, to conclude that a month or less of intensive medical management in many cases of gastric ulcer is justified. The responsibility for differentiation is great and requires the utmost vigilance, but it seems to us that the responsibility should be borne by the gastroenterologists in the interest of avoiding unnecessary surgery and of maintaining unimpaired digestive physiology.

605 Commonwealth Ave. (15) (Dr. Smith).

Bone Bank.—Preserving bone in a penicillin-streptomycin solution is simple, requires no special equipment or trained personnel, and is inexpensive. One hundred grafts have been done using bone so preserved. There have been no infections. All bone preserved by this method and used as a graft has integrated.—Lieut. Col. R. W. Augustine and others, Penicillin-Streptomycin Bone Bank, *U. S. Armed Forces Medical Journal*, November, 1953.

ROLE OF THE DERMATOLOGIST IN THERAPY OF CANCER OF THE SKIN

CHAIRMAN'S ADDRESS

John H. Lamb, M.D., Oklahoma City

My interest in carcinoma of the skin stems from a paper I read before the Section on Dermatology and Syphilology in 1938 on radiation treatment of cancer of the lip. Since that time much of my professional work has been devoted to improvement of radiation techniques and study of cancer of the skin in the literature and in seminars. When I began this career of active scientific study three years after entering dermatological practice, I inherited from my predecessors knowledge of the then standardized physical agents, radium and x-radiation.

I did not have to combat the doubters who stated that these agents had no scientific value, that they were dangerous implements that no one could control, and that sufficient dosage to cure a cancer would also destroy the normal tissues. Neither did I have to spend time educating the public that cautery, surgery, and zinc chloride pastes had been replaced by more effective and simpler agents that produced better cosmetic effects and cure in a high percentage of cases. I could devote my time to better treatment with variations of infiltration and kilovoltage of x-rays to such locations as the ear, alae of the nose, nasocheek folds, scalp, tongue, and buccal surfaces, where lesions had been heretofore incurable with this therapy. I could learn the tolerance doses of the normal tissues in these locations, and, finally, I also had time for pathological study of many varieties of skin neoplasms. My predecessors had so established their group as "dermatologists who were cancer specialists" that no limit was put on the tools used to cure the cancer.

The kilovoltage of x-rays available ranged from 60 to 200 kv., the half-value layer from 0.9 mm. Al to 0.5 mm. Cu, with a radium emanation reservoir of 200 mg. for external radiation and over 100 mg. in low-intensity radium element needles. This heritage was a great stimulus to a then young man who was entering an era in his specialty in which many factors seemed to be narrowing and limiting the dermatological field of practice even in cancer therapy. It is apparent, therefore, that one cannot discuss the role of the dermatologist as a cancer specialist without a historical consideration of those who established our role today and how they left us this great heritage.

HISTORICAL ROLE OF DERMATOLOGISTS AS CANCER SPECIALISTS

The dermatologists were the first to study experimentally the recovery of normal tissues from radiation. Kingery,[1] a dermatologist, was the first to publish the theory that irradiation produced some hypothetical decomposition product in the tissues. Recovery from radiation effect would be in direct ratio to elimination of this product, which, he assumed, would be subject to the same law as certain other chemical and biological reactions and follow a logarithmic curve. He pioneered in a field that brought to the forefront the importance of the three factors in computation of dosages, namely, the quantity of radiation, the space or amount of tissue treated, and the factor of time. These principles have given us protraction of radiation technique and knowledge of tissue recovery, all based on these excellent early experiments of Kingery, followed by other physicists and radiotherapists such as Duffy, Arneson, and Voke,[2] MacComb and Quimby,[3] and MacKee, Cipollaro, and Montgomery.[4]

At the second annual Pusey dinner, Dr. Leonard Weber[5] reviewed the early days of our greatest pioneer in roentgen therapy, Dr. William Allen Pusey.[6] In 1899, four years after Dr. William Conrad Roentgen discovered the new ray, Dr. Pusey went to Vienna to study the x-ray techniques of Drs. Leopold Freund[7] and Eduard Schiff, who were pupils of Roentgen's. Dr. Freund not only had given the x-rays therapeutic trial but had designed proper apparatus and offered a careful technique for its safe employment. Dr. Pusey returned to Chicago inspired with the possibilities of this new agent after his visit with Dr. Freund. On an old manila envelope he listed a generalization of the indications for the therapeutic use of x-rays, then enlarged upon these indications. With a few exceptions they still stand today.

Dr. Pusey started with a crude, gas-filled roentgen tube and mechanized rectifier and attempted to apply these principles to treatment of malignant lesions. He treated many malignant lesions of the skin, both superficial and deep, on the eyelids, the lower lip, etc., with great success. He also treated the hopeless and less favorable tumors and metastases for his surgeon friends. Palliative results in recurrent carcinoma of the breast were surprising.

Dr. Pusey was the first to advocate routine prophylactic irradiation postoperatively in cancer of the breast. He reported his results with filtered x-ray therapy on leukemia with roentgen irradiation of the spleen and its

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Read in the Symposium on Cutaneous Malignancy, An Appropriate Segment of Dermatology, before the Section on Dermatology and Syphilology at the 102nd Annual Meeting of the American Medical Association, New York, June 3, 1953.

[1] Kingery, L. B.: Saturation in Roentgen Therapy: Its Estimation and Maintenance, Preliminary Report, Arch. Dermat. & Syph. **1**: 423 (April) 1920.

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[3] MacComb, W. S., and Quimby, E. H.: The Rate of Recovery of Human Skin from the Effects of Hard or Soft Roentgen Rays or Gamma Rays, Radiology **27**: 196 (Aug.) 1936.

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immediate effect on diminishing the number of white cells in the circulatory blood. He became interested in the therapeutic use of this new agent for skin diseases and presented a case of pseudoleukemia or Hodgkin's disease at the Chicago Medical Society on Feb. 26, 1902. Erythema was produced, and the affected glands diminished rapidly in size. As early as 1902 he published many valuable papers on the use of x-rays in the cure of cancer, and continued to produce equally important papers throughout his active life. Dr. Pusey also edited a treatise on "The Practical Application of Roentgen Rays in Therapeutics and Diagnosis,"[6e] which had many editions. Dermatologists owe a great debt to this great teacher for his early vision in the use of this agent in our specialty.

One of Dr. Pusey's early pupils was a young Oklahoma country practitioner, Dr. Everett S. Lain, who in 1908 gave up a successful general practice,[8] and went to study with Dr. Pusey. Dr. Lain returned to Oklahoma and carried out the teachings of Pusey. He gave many hours of his time to the establishment of cancer clinics over the state of Oklahoma. He became the Oklahoma representative of the American Cancer Society in this area. Thus, all of the experience of Pusey and Lain was accumulated, digested, and improved upon, then passed on to us. Our present day methods rest upon these foundations. Similar dissemination of this knowledge in the therapeutics of cancer has taken place all over this country. In some areas the seeds have fallen on fallow ground, in others on fertile soil.

DERMATOLOGICAL TRAINING FOR CANCER SPECIALIST

Since the commonest form of cancer in the male, and the third most frequent in the female, is cancer of the skin, the majority of the cases are first seen by the dermatologist. The training of a dermatologist teaches him first to be accurate in direct inspection of all skin changes. He is trained to know all forms of precanceroses and their transition to malignant lesions. Ninety-five per cent of all malignant skin diseases can be diagnosed by clinical evaluation by most dermatologists.

Dermatologists are trained to differentiate nevi clinically and microscopically, an exceedingly difficult differential to many others. They are also trained to diagnose other skin conditions which in the early stages resemble precancerous keratoses. Lupus erythematosus offers such a problem on the face. Several cases have been seen in which heavy radiation was applied to small, single lesions of lupus erythematosus, which later spread in annular, discoid plaques typical of this disease.

The dermatologist is the logical cancer specialist because of his training as a therapist. In treating the benign lesions of the skin, he learns a great deal about the tolerance of the skin for radiation. Various degrees of radiation reactions are easily discernible, and he has a "feel" of depth perception to determine the extent of the lesion and many other minor but important factors in dealing with malignant disease of the skin.

SOME ESSENTIALS FOR THE CANCER SPECIALIST

The dermatologist cannot expect a superior reputation among both patients and physicians unless he follows some definite principles to become a cancer specialist. First, his approach, therapy, and results must satisfy tl patients. In our practice, x-ray and radium therapy the method of choice, since patients are pleased with tl more effective modern radium and x-ray therapeut methods for the following reasons: 1. They are simp 2. There are no fears of "cutting on a cancer." Patier have a definite fear resulting from a lay idea that "cuttin spreads the lesion. 3. Cosmetic results are excelle Later atrophic sequelae are avoidable with filtration x-ray therapy and with the gamma rays of radium. T skin erythema dose is much higher for gamma rays radium (1,000 r) and heavier filtered x-rays (400 500 r). Thus a much higher total dosage can be giv with a lower number of skin erythemas.

Another factor of importance is cooperation and hc esty with general practitioners. Interest in palliation th apy and in all hopeless cancer conditions must be ma tained.

Also essential is cooperation with surgical staffs w are themselves cooperative and appreciate the true val of radiation techniques. Domination of cancer clin over the country by noncooperative surgeons who a opposed to radiation treatment militates against effecti utilization of these physical methods and their bene to the patient, with regard to both curative and palliati effects. The progress made in the field of cancer surge however, is truly as remarkable as that made in rad therapy.

X-ray equipment should be adequate. There is finer investment than x-ray equipment that will wi stand heavy usage. All ranges of kilovoltage should included, from a low of 60 kv. to at least 140 kv.

It is also important to buy or rent adequate radiu i. e., three 5 mg. half-strength plaques, three 10 mg. ha strength plaques, four 5 mg. radium needles in platinu ten 1.5 mg. (2 cm. length) interstitial radium elemen low-intensity needles, six 2 mg. interstitial radium e ments, low-intensity needles, and eight long 2 mg. i terstitial radium element needles 44 mm. in length. T dermatologist should be equipped to aid in treatment patients for whom his treatment has failed, i. e., the with metastatic lesions, with heavier filtration and high kilovoltage or low-intensity, interstitial radium eleme needles.

Whenever cancer is suspected, it is imperative th physical examinations by the dermatologist be comple with special attention to the vaginal orifice, oral cavi breasts, and genitalia. The method of treatment must rational and adequate and chosen most carefully. A fr quently justifiable criticism of many radiotherapists wl treat cancer is that the majority "underdose" with radi tion, then follow-up with electrodesiccation or electr surgery to produce the cure. In 1935 this was certain true in our office; two patients daily were treated with a other round of filtered x-ray therapy, cautery, or electr surgery. Today, with proper dosage, we are approachin a 100% cure rate with the first treatment.

No one method is entirely adequate—all metho must be available and understood by the dermatologis Each malignant lesion must be studied carefully as t (1) location of lesions, as normal tissues in various lo cations react differently to radiation; (2) depth; and (3 extent. With the excellent progress of cancer educatio throughout this country, the large, infected epitheliomas of the old days are gone; however, one or two such lesions are still seen weekly. These are the real test for the various methods of therapy, since most methods will handle the small, early epitheliomas.

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[8] Lain, S.: Pioneering in the Use of X-Rays and Radium in Oklahoma, published monograph, 1952.

Microscopic study of the tumors must be a part of the dermatologist's work as a cancer specialist. It is recommended that more dermatologists become adept in the study of histopathology of the skin in order that they may study their own cancer tissues. It is encouraging to see the interest on the part of dermatologists in pathology over the past 10 years. However, I do not believe in the great importance that is being placed on the positive biopsy report; the examination, palpation, and history are of equal importance. The clinical diagnosis is based on such factors as (*a*) the history of growth of the lesion from a precancerosis; (*b*) a pearly consistency; (*c*) the presence of telangiectatic vessels over the surface; and (*d*) the presence of other precanceroses.

The sin of treating clinically malignant lesions that have been reported as microscopically benign with heavy radiation is far less than that of underestimating the same growth because of several pathological reports of nonmalignancy. This is particularly applicable when the lip and buccal cavity areas are involved. The pathological report of many biopsy specimens removed from clinically positive lesions in the buccal mucosa will be leukoplakia or leukokeratosis, nonmalignant. Nevertheless, by observation and experience it can be seen that they are already malignant and should be treated as cancer.

The biopsy has been established by many therapists as a guide for determining the dosage for each type of cancer. Our dosage is approximately the same for all types of skin cancer—be it basal or squamous. We have a very high regard for any type of skin cancer. Microscopic analysis from one tiny segment of a lesion has never given us a feeling of safety in the basal types. In the past 20 years we have had more trouble with under-radiated and, finally, radioresistant, infiltrative types of basal cell lesions than with squamous cell cancers, which everyone is taught to respect.

The biopsy presents another pitfall in the hands of the general surgeon or general practitioner who takes a small biopsy specimen in a clinically positive case and, on receiving a negative pathological report, delays radical treatment for several months while the typical cancer develops. If the lesions are borderline clinically, a biopsy specimen should be removed and therapy postponed until the tissue is studied.

For the young cancer specialist, the biopsy should be a routine procedure on each cancer patient to protect him, but as the clinical judgment becomes more accurate it need not be made routine but left to the judgment of the therapist. Many of our patients have over 10 cancers. The expense of the biopsies in such instances would preclude any further treatment of the cancers. In certain locations the removal of a biopsy may spoil the cosmetic results and, by subsequent infection, interfere with the radiation effects in such locations as the upper and lower eyelids. I plead that, if a biopsy is performed, minute slices or a scissor-bite portion of the active growth is all that is necessary.

Surgery is reserved in our practice for infiltrating basal cell carcinomas that have been improperly irradiated and are radioresistant; it is also used where the skin about the tumor will not heal when the cancer is destroyed by desiccation and curettage. Surgery is the preferred treatment for melanomas and cancers larger than 1.5 to 2 cm. on the dorsal surface of the hands and fingers. Many cancer therapists (Martin [9]) advocate electrosurgical removal of large, fungating portions of the growths before radiation is instituted. However, with proper use of varying kilovoltage and filtration, these large masses melt away and no electrosurgery is at all necessary, as it is only more painful and shock-producing to the patient, upsets the cancer bed, and disrupts the exact totaling of dosage. Any trauma may increase radiation effects. To destroy these large, fungating surface masses, unfiltered x-rays of from 1,500 to 2,000 r units in two divided doses, 100 kv., a half-value layer of 0.9 mm. Al are added to the usual heavier filtered x-ray and gamma radiation therapy. The cancer mass is closely windowed, protecting the normal skin. This radiation acts almost as an escharotic to the fungating mass of vessels, pyogenic infection and cancer cells, and completely melts the lesion away. The penetration of this x-ray dose in the tumor bed is so small as to be almost negligible in figuring the total dosage.

Electrosurgery and electrodesiccation with curettage have their place in selected cases and are the favored methods of many dermatologists. Because of the high rate of cures and the success of x-ray and radium therapy in our group, electrodesiccation is reserved for precancerous lesions and electrosurgery for radiation failures.

If radiation is to be used, the total dosage must be estimated, a treatment schedule planned for each individual case, and then therapy effectively carried out. One must know the principles of radiation. For 30 years we have used a combination of x-rays and gamma radiation from a radium source, either external or interstitial. This combined use of x-rays of two different qualities, or combined with radium, has been employed by Quick,[10] Smithers,[11] Quimby and Pack,[12] and many gynecologists who combine large dosages of intravaginal gamma radium with 2,000 to 3,000 r units of filtered x-rays. Quimby and Pack [12] as early as 1930 proved experimentally that with a combined use of gamma rays of radium and x-rays one-third more radiation energy was required to produce a skin erythema than was required with x-rays or radium alone. It has been concluded by these investigators that much greater quantities of radiation can be delivered to a carcinoma, with safety to normal tissues, by a combination of two different qualities of radiation than the same total dosage from a single quality.

On this principle has evolved our method of therapy.[13] Briefly, it is 3,000 to 5,000 r of x-rays in divided dosage

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9. Martin, C. L., in Pohle, E. A.: Clinical Radiation Therapy, Philadelphia, Lea & Febiger, 1950, p. 867.

10. Quick, D., in Clinical Therapeutic Radiology, Portman, U. V., editor, New York, Thos. Nelson & Sons, 1950, p. 128.

11. Smithers, D. W.: The X-Ray Treatment of Accessible Cancer, London, William Wood & Company, 1950.

12. Quimby, E. H., and Pack, G. T.: Further Studies on the Skin Erythema with Combinations of Two Types of Radiation, Radiology 15:30 (July) 1930.

13. Lamb, J. H.: Cancer and Precancers of the Skin, in Current Therapy 1951: Latest Approved Methods of Treatment for the Practicing Physician, Conn, H. F., and others, editors, Philadelphia, W. B. Saunders Co., 1951, p. 430.

to tumors, with the addition of external radium of a dosage of 3,000 to 4,000 gamma r units. This produces excellent results, and the tissue effect does not resemble that of radiation given by a single quality used alone, such as x-rays in divided doses for a total dose of 7,000 r units. This could be predicated upon the fact that there is a much lower number of erythema doses from this combined treatment than if the same dose is given with x-rays alone.

When interstitial radiation is used (and also gamma radiation), 2,000 r units of x-rays, 100 kv., 9 in. distance, half-value layer of 0.9 mm. Al, in one single dose, or, if the area is large, in two divided doses one week apart, are added, giving 6,500 gamma r plus 2,000 r x-rays. For the fungating, largest tumors, the x-rays may be of two different qualities as described previously, both half-value layer 0.9 mm. Al, at 100 kv. and 4.5 mm. Al, at 120 to 140 kv. By combining these various qualities of radiation, our cures are increased to about 98% and 99%.

In treating 700 to 800 skin cancers yearly, the recurrence rate is from 1% to 2%. In 1952, only six cases of ulcerated, infectious lesions resulting from traumatic injury in the old radiation site were seen from radiation therapy given two to five years previously. These are cured in most cases with three to six injections of 100,000 to 200,000 units of penicillin in saline solution under and around the lesion, after procaine anesthesia. After these heavy doses as outlined are administered, care must be exercised in treating the recurrences with desiccation and curettage, since healing will not be rapid. Electrosurgery is the preferred method, and the entire old radiation area should be removed.

Podophyllin, 20% in tincture of benzoin, has a very important place in treatment of the recurrent cancers in our own cases as well as in those of other radiotherapists. Some of these cures have been as dramatic as those reported by Smith and Garrett.[14] Podophyllin seems to be a better agent in old, radioresistant tumors than in fresh, untreated lesions. It is especially satisfactory in radiation cancer in physicians or dentists or in actinic cancer occurring in areas previously over-treated by x-rays for such conditions as acne or eczema. Two dentists and one orthopedic surgeon have been saved from amputation and plastic surgery by this method. The permanence of cure must await time.

Moh's treatment is of value in these cases also, but in the South and Midwest many notorious charlatans and cancer patients themselves have developed and used this method, except that there is no microscopic control or tissue removal as in Moh's method. Therefore it is in disrepute among the profession and the public alike.

SUMMARY AND CONCLUSIONS

Experiences in treating cancer over a period of 18 years, sometimes unsuccessfully, have been briefly reviewed. No patients with any one disease produce more satisfaction and pleasure to the cancer physician than the patients with skin cancer. They need treatment and are pleased with results. Three or four such cases daily help to eliminate the discouragement experienced in treating chronic dermatoses. I conclude by pleading that more centers that have developed a large cancer clientele give thought to short courses each year in radium, x-ray, and other techniques for postgraduate students. Such courses would substitute for the apparent lack of training in some of our dermatological educational institutions and give encouragement to—not belittle—those dermatologists today who are broadening the scope of dermatology, be it in allergy, radiation therapy, or plastic or electrosurgery.

Medical Arts Bldg. (2).

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[14] Smith, L. M., and Garrett, H. D.: Resin of Podophyllum in Treatment of Cancerous and Precancerous Conditions of Skin: Effect on Basa Cell Epithelioma and Seborrheic, Senile and Radiation Keratoses, Arch Dermat. & Syph. 61:946 (June) 1950.

COMPARATIVE PHYSIOLOGY OF THE KIDNEY

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We cannot properly speak of physiology, and therefore we cannot speak of comparative physiology, until the time of Harvey. But it is worthy of emphasis that the discoverer of the circulation utilized the comparative method as extensively as any man since his time. It is something of a paradox that Harvey, in observations on the circulation of the blood, failed to challenge the Galenic view on how the blood got from the arteries to the veins but was content to believe that it seeped through the soft organs simply as water seeps through sand.

CONTRIBUTIONS OF MALPIGHI

The microscope, as improved by Galileo, was available in Harvey's time, but either because of lack of acquaintance with the instrument or lack of interest in the finer structure of the body, he failed to use it. It was Galileo's compatriot, Marcello Malpighi, who introduced this instrument into the study of the structure and function of the animal body. Apparently from youth Malpighi had been amusing himself with a microscope of sorts. Shortly after completing his medical training, he began to utilize it so profitably that four sciences now claim Malpighi as their own. With Nehemiah Grew, he pioneered in the study of plants, and his "Anatomy of Plants," published by the Royal Society, entitles him to be considered with Grew as one of the founders of vegetable morphology. Aristotle, Fabricius, and Harvey had all studied the chick embryo, but Malpighi was the first to give an adequate description of how a little white, opaque spot in the hen's egg is transformed into the feathered, living bird, and he is justly called the founder of embryology. At the request of the Royal Society, he undertook an exhaustive study of the silk worm, describ-

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ing its life habits, its metamorphosis, its gross structure, and the fine anatomy of its viscera, and giving his name to the Malpighian tubules that constitute the excretory organs of the insects. This treatise, with many other contributions, entitles him to be called the first profound student, after Aristotle, of comparative antomy. It is, however, through his studies of the fine structure of the soft tissues of the body that medical science lays claim to him as the founder of microscopic anatomy.

It was in Malpighi's study of the structure of the lungs, published in 1661, or four years after Harvey's death, that he discovered the capillary circulation, thus completing the gap between the arteries and the veins. Five years later, in a volume entitled "The Structure of the Viscera" (1666), Malpighi described with extraordinary acuity the major microscopic features of the brain, liver, lymph nodes, spleen and kidney. The year before he began his studies of the kidney, Lorenzo Bellini, a 19-year-old Italian youth, had demonstrated by dissections of the deer that what had theretofore been considered to be fibrous strands radiating throughout the kidney were in fact hollow tubes or ducts that radiated inwards from the pelvis to form an elaborately arborized system of caniculi. It was perhaps in tracing Bellini's ducts backwards into their finest ramifications that Malpighi, with a microscope magnifying some 30 times, found that the smallest order of tubes began as spherical bodies or corpuscles, each of which was composed of an elaborate tuft of the capillaries that he had discovered in the lungs. Malpighi satisfied himself that the capillaries were connected with the smallest arteries, and he surmised, if he did not prove, that they were also connected with the efferent veins. He also surmised, but did not establish, that the corpuscles were individually connected with the uriniferous tubes, and that they played an important part in urine formation.

NINETEENTH CENTURY CONTRIBUTIONS

Here, in effect, the matter of renal anatomy rested until 1842, when William Bowman, then a young demonstrator of anatomy at Kings College, London, gave the definitive description of the vertebrate nephron in what is a truly classic paper. It was Bowman's signal achievement to demonstrate that the space around Malpighi's capillary tuft communicates freely with the uriniferous tube so that any fluid separated from the capillaries drains into the latter, but he also described the general structure of the Malpighian corpuscle and of the uriniferous tube in such accurate terms that they could today well serve as an introduction to any text book on renal anatomy. Bowman used a microscope having a magnifying power of approximately 300, but he worked entirely by teasing the kidney apart and without the aid of aniline dyes that had not yet been invented.

Considering that Bowman published only one paper on the kidney, his work was as comprehensive in the matter of comparative anatomy as that of Harvey and Malpighi. Before arriving at his generalizations on renal anatomy, he satisfied himself of the correctness of his descriptions by studying the kidney in man, the badger, dog, lion, cat, mouse, squirrel, guinea pig, horse, parrot, tortoise, boa constrictor, frog, and common eel. Had he happened to examine an aglomerular fish (of which there were several species in the coastal waters of England), his paper, which set the pattern of renal physiology for nearly 100 years, would certainly have had an entirely different cast.

In speculating about the mechanism of urine formation, Bowman logically assigned a different role to the Malpighian corpuscle and to the epithelial tubule. He saw the corpuscle as uniquely designed to separate water from the blood across the *capillary tuft, but he believed* that all the solid constituents of the urine were added to this water as a secretion from the tubular epithelium. His notion of secretion was that of his day, namely, that the secretory epithelium is cast off entirely in the formation of the secretion by a process of disruption or dissolution of the cell. In this view he conceived that the water from Malpighian corpuscle was necessary to wash the disgorged contents of the epithelial cells down the tubule. In this matter he was not dogmatic, however; recognizing that he was endeavoring to demonstrate a doubtful hypothesis by an explanation more doubtful still, he adds that "Parallel lines of inquiry into the anatomical varieties of the Malpighian corpuscles and the uriniferous tubes, and into the chemistry of their secretion in the different kinds of animals and in various stages of their development, could scarcely fail to confirm or to confute what has [here] been advanced."

Bowman failed, in point of fact, to grasp the simple, physiological implications presented by the fine anatomy of the Malpighian corpuscle, a failure that was corrected two years later by Carl Ludwig, professor of anatomy at Marburg, who saw in this corpuscle a beautifully contrived, mechanical device permitting the separation from the blood, by simple process of filtration, of a large quantity of cell-free and protein-free fluid, sufficient in amount to contain all the urinary constituents. Accepting this basic premise of the filtration of a large quantity of fluid, the formation of a concentrated urine must be effected by the reabsorption of a considerable fraction of the filtered water during the passage of the fluid down the tubule. In Ludwig's view, Bowman's secretion by desquamation of the uriniferous epithelium became superfluous and questionably pertinent to urine formation, and Ludwig dismissed it as an improbable hypothesis.

Ludwig's filtration-reabsorption theory met with opposition chiefly from Rudolf Heidenhain, of Breslau, who had discarded the older theory of secretion by cellular desquamation in favor of a continuing intracellular process by which substances, either foreign or native to the blood, were transported from the blood to the urine without breakdown of the epithelium. Thus Heidenhain was perhaps the first to advance the modern view of tubular secretion.

MODERN THEORY OF URINE SECRETION

The differences in Ludwig's and Heidenhain's views assumed the form of seemingly irreconcilable theories and engendered a conflict that persisted throughout the last half of the 19th and into the first half of the present century. The Ludwig filtration-reabsorption hypothesis obtained strong support from Arthur Cushny, then at University College, London, in his 1916 Sidney Ringer lecture, subsequently published in monographic form under the title "The Secretion of Urine." After a careful review of the literature, Cushny failed to see wherein the "secretionists" had established their point, and he marshaled the evidence for the Ludwig hypothesis under the general term of the "Modern Theory of Urine Secretion" because, as he says, his theory rested not on the work of any one man but on the work of many.

Though A. N. Richards had long been interested in the kidneys, as studied in perfusion experiments, it was one of Krogh's papers on the capillary circulation, which had just been published, that launched Richards into his epoch-making micropuncture studies in the frog and Necturus. Between the years 1921 and 1935 Richards and Walker and their co-workers, in a series of brilliant studies that are widely known, translated the Ludwig filtration-reabsorption hypothesis from the realm of theory into fact and laid the foundations for our knowledge of the detailed reabsorptive operations of the proximal and distal segments of the renal tubule.

The question of tubular excretion remained, however, a matter of controversy. That the tubules could excrete some substances, and notably phenolsulfonphthalein, was supported in this country by E. K. Marshall at the medical school of the Johns Hopkins University. In retrospect, I believe that the renal excretion of phenolsulfonphthalein in the dog, as argued by Marshall and Vickers in 1923, is the first definitive demonstration of tubular excretion in any animal, but it was only after Marshall and Grafflin and, independently, Edwards and Condorelli, began their studies on the aglomerular marine fishes that the reality of tubular excretion received general recognition.

Up to the fourth decade of this century, problems in renal [illegible] of a qualitative nature and largely [illegible] answers. After 1932, however, a [illegible] came available for measuring the central operation of glomerular filtration in experimental animals and in man, renal physiology was rapidly transformed into a quantitative subject. Tubular excretion has now been demonstrated to play almost as important a part in urine formation as tubular reabsorption. Both operations, together with glomerular filtration, have become subjects of such wide investigation that we can fairly say that we possess a larger body of precise, quantitative knowledge on the kidney than on any other organ.

RELATION TO EVOLUTION

To summarize the many studies now available on the comparative physiology of the kidney, from the fishes up to man, would be impossible in any short period, and I must be content to emphasize that these studies have paid a great and unexpected dividend in the way of broadening our horizons with respect to the evolution of all the vertebrates, including man. May I recall to your memory the name of Claude Bernard, perhaps the greatest physiologist of the 19th century, and Bernard's epitome that the environment in which *we live is neither air* nor water, but the blood and body fluids that bathe all the tissues. This internal environment, as Bernard pointed out, is characterized by an extraordinary constancy of composition, and it is by virtue of this fact that the animal achieves a free and independent life. This idea of Claude Bernard's has been rated, in respect to physiology, in importance with Darwin's demonstration of evolution for biology. In truth, the two ideas are closely related, because the story of the evolution of the vertebrates is, in essence, the story of the evolution of the internal environment. I need scarcely emphasize to you that it is the kidney that is charged with the synthesis or regulation of this environment, an operation that it carries out in reverse, so to speak, by the circuitous processes of glomerular filtration and tubular reabsorption. Our entire internal environment is, in fact, thrown out of the body by way of the glomerular filtrate some 16 times a day, only to be captured by the renal tubules before it falls to earth, and it is in this process of recapture that the renal tubules perfect and maintain its composition. The progressive evolutionary elaboration of the kidneys to the point where we may live in a fluid the composition of which scarcely suffers any change is a story that can now, in some measure at least, be reconstructed from the data of comparative physiology.

Without this internal environment—that is to say, without the kidney—the first armored fishes could not have invaded fresh water 500 million years ago. It was the physiological crisis engendered by this invasion of fresh water that led to the evolution of the glomerulus as a device enabling the heart to pump water out of the body. Without subsequent improvements in the kidney there could have been no evolution of the air-breathing fishes of the Devonian period, which in subsequent periods supplied the first semiterrestrial amphibious animals, and through the Amphibia, the great dynasties of the Mesozoic reptiles. From these Mesozoic reptiles there came the warm-blooded mammals and such further improvements in the kidney as enabled the mammals to compete with, and finally to supersede, the reptilian forms. Warm-bloodedness fostered the evolution of the brain until, in the primates, the sense of sight came to dominate the sense of smell, culminating in the evolution of the human cerebral cortex, the most elaborate organ in all of animate creation for the mediation of consciousness with its manifold operations of perception, integration, volition, and imagination. When I reaffirm Bernard's thesis that we owe our physiological freedom to the constancy of our internal environment, I am but affirming that both the historic and immediate foundation of this freedom rests in the organ that both historically and immediately supplies us with this stable body fluid.

Harvey, Malpighi, Bowman, Ludwig, and Heidenhain could scarcely have forseen what consequences were to issue from their studies on deer, birds, snakes, frogs, and all manner of animals: but in the revolution that engulfed all biological science after the publication of Darwin's "On the Origin of Species by Means of Natural Selection," these fragments began to fall into a mosaic in which it is seen that, as the physicist John Tyndall said only 15 years after the publication of Darwin's book, "The doctrine of evolution derives man, in his totality, from the interaction of organism and environment through countless ages past. The Human Understanding . . . is itself a result of the play between organism and environment through cosmic ranges of time." Tyndall had, for a physicist, a remarkably comprehensive knowledge of biological science, but in 1874 not much was known about renal function. Otherwise, I believe that he would have mentioned the internal environment, and the kidney, in his philosophic epitome.

TREATMENT OF CHRONIC DISCOID LUPUS ERYTHEMATOSUS WITH QUINACRINE

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and
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The article by Page[1] on the treatment of 18 patients with lupus erythematosus with quinacrine hydrochloride (Atabrine) has initiated widespread interest in the United States regarding this subject. As early as 1940, Prokoptchouk[2] reported the use of quinacrine (Acrichin) in 35 patients with lupus erythematosus and was impressed with its effectiveness. Popoff and Kutinscheff[3] observed remission of lupus erythematosus in six patients treated with quinacrine in 1941. Krynski[4] treated six patients during the period 1940-1945. Pseudoicterus developed in one patient, and another showed a temporary psychic disturbance. He concluded that the method was effective but that the high incidence of side-reactions probably made its more general usage unwarranted. It has since been shown that the American product Atabrine (quinacrine hydrochloride, U. S. P.) probably is less toxic and produces fewer side-effects than Acrichin the Russian product or its German analogue Atabrin.[5] Bispham,[6] in a series of 46,681 patients who received quinacrine for prophylaxis and treatment of malaria, observed only 38 instances of toxic reactions. Agress,[7] in a group of 3,000 patients, reported an incidence of untoward reactions in only one-twentieth of 1%.

In a survey of the toxic manifestations attributable to quinacrine, it is significant that these are almost without exception limited to the skin, hematopoietic system, central nervous system, the liver, and the eye. The cutaneous manifestations described include: (1) lichen planus-like, lichenoid, and eczematoid dermatosis,[8] (2) a toxic exanthem resembling typhus,[9] (3) exfoliative dermatitis,[10] pseudo-icterus,[11] (4) pigmentation resembling that of ochronosis,[12] (5) hemorrhagic capillary toxicosis,[13] and (6) hyperkeratosis of palms and soles.[14] Blood complications include: (1) hemoglobinuria,[15] (2) agranulocytosis,[16] and (3) aplastic anemia.[17] Temporary psychosis and psychoneurotic reactions have been rather frequently reported,[18] and occasionally a case of polyneuritis[19] has been presented. Eye changes include corneal edema,[20] keratitis,[21] and blindness.[22] Hepatic lesions include focal necrosis[23] and toxic hepatitis.[24]

Encouraging preliminary reports on the use of quinacrine in lupus erythematosus have begun to appear in the American literature. Cramer and Lewis[25] reported rapid improvement in six patients. Sawicky and his associates[26] observed prompt and definite improvement in 21 patients, complete clearing in 6, and failure to respond or relapse in 3. Wells[27] in a study of 12 patients reported a good response in 9 and complete clearing in 3, with 3 others considered as therapeutic failures. In one of these, itching and scaling of the palms occurred and in another, dissemination of the cutaneous lesions.

RESULTS OF STUDY

The present study includes 32 patients with chronic discoid lupus erythematosus who had been treated with quinacrine from February, 1952 (table). All but six of these patients had received previous therapy, other than quinacrine, for their condition. The dosage schedule used was 0.1 gm. of quinacrine hydrochloride twice daily for a period of two weeks and 0.1 gm. daily thereafter. Two patients continued on this regimen for one year. Two patients received the drug for only one month. All of the remaining patients were under continuous treatment for at least two months. Cases were classified as severe, moderately severe, and mild, depending on the extent of involvement. Results were evaluated on the basis of three categories: complete clearing, improved at least 50%, and failure. Twelve cases showed complete

Quinacrine Therapy in Thirty-Two Patients with Chronic Discoid Lupus Erythematosus

Case No.	Age	Sex	Duration, Yr.	Prior Treatment	Degree of Illness	Quinacrine Therapy, Mo.	Degree of Result, %
1	41	M	11	Yes	Severe	11	50
2	37	F	2	Yes	Severe	3	0
3	28	F	9	Yes	Severe	4	50
4	57	F	2	Yes	Mild	3	100
5	62	M	8	Yes	Moderate	5	50
6	37	F	8	Yes	Mild	3½	50
7	35	M	14	Yes	Moderate	4	50
8	41	F	15	Yes	Severe	4	50
9	21	F	8 mo.	No	Mild	6	50
10	32	F	6 mo.	No	Mild	2	0
11	43	M	20	Yes	Severe	12	50
12	40	F	9	Yes	Mild	3	50
13	35	M	14	Yes	Moderate	8	50
14	45	F	1	No	Mild	3	100
15	22	F	4 mo.	No	Mild	1	100
16	41	M	13	Yes	Mild	4	0
17	56	M	15	Yes	Moderate	3	100
18	54	F	10	Yes	Moderate	4	50
19	54	F	6	Yes	Moderate	3	100
20	35	F	14	Yes	Mild	2	100
21	56	F	6 mo.	No	Severe	5	100
22	29	F	8	Yes	Mild	3	50
23	53	F	13	Yes	Mild	1	50
24	28	M	1	Yes	Severe	6	100
25	55	M	21	Yes	Mild	2	100
26	47	F	3	Yes	Moderate	2	0
27	39	F	5 mo.	No	Severe	2	50
28	35	M	6½	Yes	Mild	3	0
29	45	M	11	Yes	Severe	2	50
30	37	F	5½	Yes	Mild	2	100
31	45	M	9	Yes	Mild	2	100
32	60	M	1½	Yes	Mild	2½	100

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clearing. Fifteen showed at least 50% improvement, and five were considered failures.

Two patients showed a tendency to relapse while they were being treated with quinacrine. Neither showed a good initial response, and results of treatment in both were ultimately classified as failures. Two untoward reactions were observed. One of these was a severe generalized lichenoid and eczematoid dermatitis occurring after three months of therapy. The patient incidentally showed complete clearing of all lesions, and the drug eruption responded dramatically to cortisone therapy. The second reaction was very mild in character and was indistinguishable from pityriasis rosea. This occurred after four months of therapy.

From this study it would appear that the effects of quinacrine are rapid and dramatic in those cases of chronic discoid lupus erythematosus that will prove amenable to this therapy. In 10 of the 12 subjects in whom complete clearing resulted, the response was noted within three months. This is significant, for it is a generally accepted fact that the incidence of toxic reactions attributable to quinacrine increases with the prolongation of its administration beyond a period of three or four months. Furthermore, it is impossible to definitely state that improvement occurred in any instance in which therapy was continued beyond five or six months. The response to therapy apparently bears no relationship to age, sex, duration, severity, or previous treatment. Thus far, tendency to recurrence or relapse has not been observed in any of these patients in whom the disease ha cleared completely or in patients who have initially show marked improvement.

SUMMARY

A brief review of the preliminary reports on the treat ment of chronic discoid lupus erythematosus with quina crine (Atabrine) hydrochloride is presented togethe with a survey of the toxic effects produced by this dru This study includes a group of 32 patients who ha chronic discoid lupus erythematosus and who wer treated with quinacrine, 0.1 gm. twice daily for two week and 0.1 gm. daily thereafter, for periods ranging fro one month to one year. Twelve patients have shown complete clearing of all lesions. Fifteen patients have show at least 50% improvement, while five have been considered failures. There have been two instances of toxi reaction. One was a severe, generalized, lichenoid an eczematoid dermatosis developing after three months o therapy. The other was a mild, transitory eruption, in distinguishable from pityriasis rosea, occurring afte four months of therapy. Maximum response may b expected early in the course of quinacrine therap usually within three to four months. Thus, if therapy i not continued beyond this period, fewer toxic reaction may be expected. Thus far, relapse or recurrence has n been observed in those patients who showed complet clearing or dramatic initial response to therapy wit quinacrine.

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INTESTINAL ANTISEPSIS IN SURGERY

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The modern concepts of intestinal antisepsis have developed during the past 12 years. Initially, certain sulfonamides, which were poorly absorbed from the gastrointestinal tract, were found to act locally to alter the bacterial flora. These compounds had relatively narrow antimicrobial spectrums, had little effect against the gram-positive organisms, and acted primarily as bacteriostatic agents against the gram-negative bacteria found in the gastrointestinal tract of man. While many of the sulfonamides have some activity, it was not until succinylsulfathiazole (Sulfasuxidine) was used by Knotts, Lee, Inui and myself [1] that the gram-negative flora of the bowel could be altered significantly and consistently. Many sulfonamides were investigated, but ultimately only three could be used as practical intestinal antiseptics. They were, in the order discovered, succinylsulfathiazole,[2] phthalylsulfathiazole (Sulfathalidine),[3] and phthalylsulfacetamide (Thalamyd).[4] Of these three, succinylsulfathiazole was the most promising and satisfactory, because it not only altered the gram-negative flora of the gastrointestinal tract but also aided in th mechanical preparation of the bowel.[5]

These substances had definite disadvantages. The had relatively narrow spectrums, and, being bacteriostatic, they could merely inhibit the multiplication o organisms. It was required, therefore, that the contents of the bowel be evacuated by mechanical cleansing o the irregular mucosal surface of the bowel to remove viable bacteria. This procedure requires a considerable length of time and is not effected consistently and satisfactorily in less than seven days.[6]

The antibiotics were subsequently studied as intestinal antiseptics. Streptomycin was the first,[7] and was immediately found unsatisfactory because of the rapid development of resistant organisms.[8] The gastrointestinal tract, with its complex structure, fecal content, and subjection to reinfection by oral ingestion of contaminated material provides an excellent site for the development of resistance.

When chlortetracycline (aureomycin) first became available in very limited quantities, it was used at the University of Texas Medical Branch in an attempt to treat poliomyelitis during the summer of 1948. I studied the stools of the patients treated and concluded that chlortetracycline was not an acceptable intestinal antiseptic.[9] The flora was altered on occasions, but not consistently,

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and it was soon demonstrated that Micrococcus pyogenes var. aureus (Staphylococcus aureus) would frequently grow out. Subsequently, this substance was investigated by Pulaski, Connell, and Seeley,[10] who also concluded that, in comparison to other available intestinal antiseptics, chlortetracycline possessed no advantages. Dearing and Heilman [11] published material in 1950 showing that chlortetracycline rapidly altered the bacterial flora quite satisfactorily, and it was proposed as an intestinal antiseptic.

Oxytetracycline (Terramycin) [12] was also proposed as a wide spectrum intestinal antiseptic with bactericidal properties. It possessed the same disadvantages as chlortetracycline. With continued use, it was noted that, even when chlortetracycline and oxytetracycline were not used as intestinal antiseptics, frequently nausea, vomiting, and bloody diarrhea developed.[13] Occasionally, a choleriformic type of disease would develop, with pseudomembranous colitis followed frequently and rapidly by death.[14] Only recently has it been demonstrated that this choleriformic disease is due to the overgrowth of Micrococcus pyogenes on approximately the third or fourth day when the other organisms are diminished and the naturally occurring antagonists of the staphylococci removed (fig. 1).[15] The population of staphylococci in the gastrointestinal tract of man is usually quite small.

I [16] first used neomycin as an intestinal antiseptic in December, 1949. It was immediately realized that this substance had strong bactericidal properties, rapidly eliminated bacteria from the gastrointestinal tract, and gave promise of being an excellent intestinal antiseptic. The response of the first 30 patients who were treated with neomycin alone was excellent. There was no indication that any organisms survived. It was early recognized that the yeasts grew out in large numbers immediately after elimination of the bacteria. Shortly after this series of patients was studied, three instances of Aerobacter aerogenes resistance were observed in rapid succession.[17] The incidence of early Aerobacter aerogenes overgrowth varied somewhat with the season of the year and was particularly likely to develop in this section of the United States during the summer months. Approximately 10% of the persons treated had persistent overgrowth of this organism. Obviously, this complication would reduce materially the value of neomycin as an intestinal antiseptic. Thereafter, phthalylsulfathiazole was given in conjunction with neomycin to inhibit the outgrowth of Aerobacter aerogenes. This combination closely approaches the requirements of an ideal intestinal antiseptic.

The ideal intestinal antiseptic should have the following properties [18]: (1) broad bacterial spectrum; (2) low toxicity for the host; (3) chemical stability in the presence of digestive ferments; (4) capacity to prevent development or overgrowth of resistant bacterial variants; (5) rapidity of action; (6) limited absorption from the gastrointestinal tract; (7) activity in the presence of foods or other foreign substances, thereby allowing adequate intake of foods and fluids; (8) capacity to aid in the mechanical cleansing of the bowel without causing dehydration; (9) inability to irritate the gastrointestinal mucosa; (10) noninterference with tissue growth and repair; (11) low dosage requirement; (12) solubility in water; (13) palatability; (14) inhibitive activity on excessive growth of fungi; and (15) restricted use, i. e., use only as an intestinal antiseptic. A satisfactory regimen of intestinal antisepsis must not permit the development of resistant pathogenic strains of bacteria or result in extensive absorption of the agent or agents from the gastrointestinal tract.

If a substance to be used as an intestinal antiseptic is absorbed even moderately from the gastrointestinal tract, the incidence of untoward secondary reactions will greatly limit its use in patients to be subjected to extensive operative procedures. Intestinal antiseptics, to be effective, must be given in such large quantities that, if absorbed, the untoward reaction rate will be prohibitively high.

A substance that is not absorbed from the gastrointestinal tract, is chemically stable, and is not destroyed in the bowel by digestion will remain active in the bowel until evacuated. This property is particularly desirable, because then the effect will continue during the period of postoperative paralytic ileus when nothing can be administered by mouth. The combination of neomycin and phthalylsulfathiazole fulfills these major requirements surprisingly well.

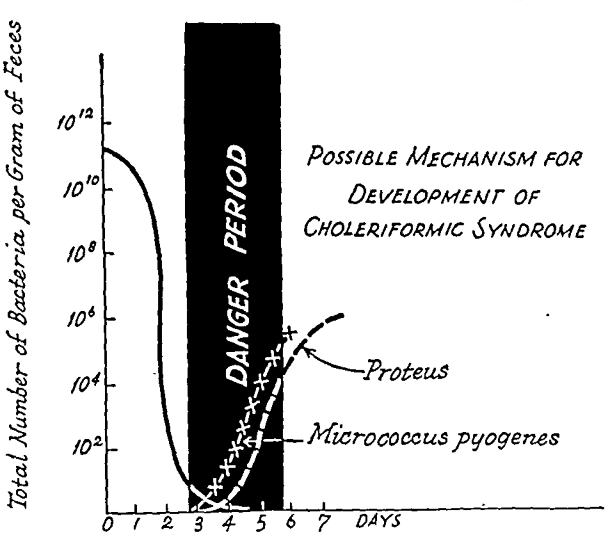

Fig. 1.—Representation of what may be the sequence of events when the so-called choleriformic syndrome develops following oral administration of chlortetracycline or oxytetracycline. When the bacterial flora is markedly suppressed on the third to fourth day, Proteus organisms grow out quite regularly and may cause diarrhea. Should a resistant Micrococcus pyogenes develop that produces a potent enterotoxin, then nausea, vomiting, bloody diarrhea, hyperpyrexia, collapse, and death may result. This simplified diagram cannot present all the possibilities.

An antibacterial agent that is used solely for intestinal antisepsis is less likely to encounter resistant strains of bacteria because of the lesser likelihood that resistant strains will become common as a result of widespread administration. The field of intestinal antisepsis has developed to where the search is no longer for new intestinal antiseptics but rather for intestinal antiseptics that are superior to those available or for a substance whose use will be restricted to intestinal antisepsis.

ABSORPTION AND EXCRETION OF NEOMYCIN

Studies were conducted to determine to what extent neomycin is absorbed from the gastrointestinal tract of man, what blood levels are maintained, and the rapidity of excretion of the antibiotic in the urine. Following the oral administration of a single 1 gm. dose of neomycin to a person with a normal gastrointestinal tract, hourly blood specimens were taken for the first six hours and then every four hours thereafter for 48 hours. Ordinarily, no neomycin could be detected in the serum. Occasionally, some antibacterial activity against the spores of Bacillus subtilus could be demonstrated in the undiluted serum. The urine was quantitatively collected until assay of the stools showed that they no longer contained neomycin and then the urine was assayed for neomycin. Excretion by the kidneys averaged 3% of the ingested dose. Blood specimens assayed following a maintenance dose of neomycin of 1 gm. every four hours for three days yielded only slight antibacterial activity.

BACTERICIDAL ACTIVITY OF NEOMYCIN

Aside from the fact that neomycin has only slight activity against Shigella organisms and the fact that in a certain percentage of patients a resistant strain of Aerobacter aerogenes will develop following its oral administration, the bacterial spectrum of this substance makes it particularly suitable as an intestinal antiseptic. No bacteria can be cultured from a 10% suspension of human feces 30 minutes after the addition of neomycin in a concentration of 500 mcg. per milliliter. A concentration of 10,000 mcg. of neomycin per milliliter can be maintained in the gastrointestinal tract of man under therapeutic conditions.

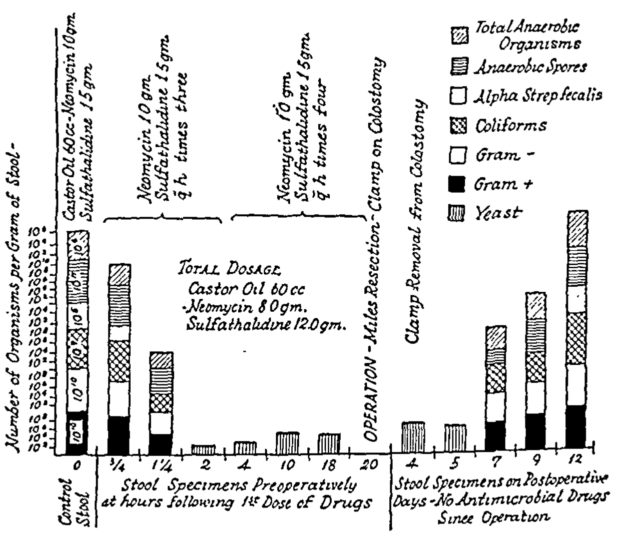

Fig. 2.—Illustration of the rapid and sustained antimicrobial action following administration of neomycin and phthalylsulfathiazole (Sulfathalidine) to a patient without bowel obstruction preoperatively.

Following these observations, experiments were conducted to determine the degree to which neomycin would protect mice against peritonitis resulting from introduction of a suspension of feces into the peritoneal cavity. Mice weighing 20 gm. were inoculated with 1 ml. of a 10% suspension of human feces. These animals began to die within three hours after inoculation. Almost all of the animals were dead in 12 hours, and none survived at the end of 24 hours. If these animals received intraperitoneally a tolerated dose of neomycin within the first hour after inoculation, however, the survival rate was 100% as contrasted to a mortality of 100% in the untreated animals. The inoculum of feces received by the mice corresponds to 400 gm. or 4,000 cc. of the 10% suspension given to a man weighing 80 kg. It is inconceivable that a person could survive, regardless of any therapeutic procedure, following the introduction of such a large quantity of highly contaminated material with its accompanying foreign matter into the peritoneal cavity.

Even though the findings in the mouse must not be carried over directly to man, these observations give an indication of the efficacy of this antibiotic. It has been repeatedly shown to be impossible to grow bacteria from specimens removed from the bowel at the time of operation 30 minutes after the gastrointestinal tract of man is flooded with a 1% neomycin solution.

STABILITY OF NEOMYCIN IN THE GASTROINTESTINAL TRACT OF MAN

Since neomycin is so poorly absorbed from the gastrointestinal tract, it becomes of interest to determine how long this antibiotic will remain active in this environment (fig. 2). Patients who had undergone abdominoperineal resection of the rectum with the colostomy kept clamped off until the fourth postoperative day were selected for studying the persistence of the bactericidal activity of neomycin in the bowel. These patients had been prepared with neomycin and phthalylsulfathiazole, and just prior to operation no viable organisms could be isolated from the feces. Postoperatively the patients received no antibacterial drugs either by mouth or parenterally. All stools were cultured following the removal of the colostomy clamp. Ordinarily considerable quantities of feces were passed immediately following removal of clamp. Usually no viable bacteria could be cultured from the stool for as long as six to seven days postoperatively. If a primary anastomosis was done, the third postoperative stool usually showed a few organisms and the normal bacterial flora ordinarily reestablished itself in the course of an additional two or three days. There was no growth of bacteria during the period of paralytic ileus.

OUTGROWTH OF YEASTS

It has been observed that yeasts grow out in great numbers when the bacterial population is reduced to low numbers by the antibiotics. The development of bloody diarrhea following the oral administration of chlortetracycline and oxytetracycline was considered to be due to Monilia infection. Considerable doubt is cast on this supposition, however, when it is realized that oral administration of neomycin results in a greater reduction of the bacterial population and a greater outgrowth of yeasts without the development of bloody diarrhea.[10] No complications due to the outgrowth of yeasts have been observed in 526 persons treated with neomycin orally.

These yeasts consist largely of Candida albicans, with occasionally large numbers of Actinomyces being present. The hazard existing because of the presence of these yeasts should not, however, be disregarded as possible causes of rare and bizarre complications. Bacteria hold the growth of yeasts in check, and it would be helpful if a strain of nonpathogenic organisms resistant to the intestinal antiseptic could be maintained in the bowel. The relatively nonpathogenic alpha Streptococcus fecalis is not depressed by the sulfonamides, and these organisms effectively suppress the yeasts. No suitable nonpathogenic organism has been found that will continue to grow following the administration of neomycin. No satisfactory means has been found to suppress the yeasts, but there seems to be considerable doubt that yeasts cause complications except in rare instances, possibly in extremely debilitated or moribund persons.

INFLUENCE OF INTESTINAL ANTISEPSIS ON HEALING

Healing of the bowel must not be retarded by intestinal antiseptics either because of their direct contact with the tissues or because of unfavorable secondary influences such as may result from enterotoxins produced by the Micrococcus pyogenes overgrowth that occasionally follows the oral administration of chlortetracycline and oxytetracycline. We have been unable to show any evidence of vitamin K deficiency following the prolonged administration of succinylsulfathiazole, phthalylsulfacetamide, or neomycin. It is conceivable that the clotting mechanism may be altered by the prolonged administration of neomycin and phthalylsulfathiazole and a purified diet such as protein hydrolysate and carbohydrates given either orally or intravenously.

It has been demonstrated experimentally that succinylsulfathiazole, phthalylsulfathiazole, streptomycin, and neomycin do not retard healing.[20] In fact, healing proceeds rapidly and simulates primary tissue repair.

PROPERTIES AND CHARACTERISTICS OF PROPOSED INTESTINAL ANTISEPTICS

Following are brief descriptions and conclusions as to the value of substances that have been proposed as intestinal antiseptics.

Sulfaguanidine.[21]—Sulfaguanidine has very limited antiseptic activity. It is readily inhibited in the presence of ulcerating lesions in the gastrointestinal tract. It is slow in its action, and it is absorbed in appreciable quantities. Sulfathiazole and sulfaguanidine are absorbed about equally from the gastrointestinal tract. It was found that approximately one-fourth of the patients who received sulfaguanidine as an intestinal antiseptic had untoward toxic reactions characteristic of reactions to the sulfonamides. It is not recommended as an intestinal antiseptic.

Succinylsulfathiazole.[22]—Succinylsulfathiazole is not readily absorbed from the gastrointestinal tract. It rather consistently inhibits the growth of gram-negative organisms, which are normal inhabitants of the gastrointestinal tract of man, without evidence of the development of resistance. Untoward reactions characteristic of sulfonamide compounds develop in approximately 1% of the treated patients. Since succinylsulfathiazole is a bacteriostatic agent, it must be administered for approximately seven days before its full effect is obtained. It tends to make the stools soft and aids in the mechanical preparation of the gastrointestinal tract. It is the most satisfactory of the bacteriostatic sulfonamides available as an intestinal antiseptic.

Phthalylsulfathiazole.—Compared to succinylsulfathiazole, phthalylsulfathiazole has very much the same properties. It is approximately twice as effective gram for gram. It has the undesirable property that it tends to cause the stools to have a ropy, tenacious consistency, which makes the evacuation and cleansing of the bowel somewhat difficult. It possesses the advantage over succinylsulfathiazole, however, that it is more effective in the presence of a watery diarrhea. Toxic reactions develop in less than 1% of the treated patients.

Phthalylsulfacetamide. — Phthalylsulfacetamide has much the same properties as succinylsulfathiazole and phthalylsulfathiazole. It is, however, absorbed to a much greater degree than the previous two sulfonamides. The extent of this absorption varies greatly. It can be expected, therefore, to give rise to a relatively larger number of toxic reactions.

Streptomycin.—Streptomycin acts rapidly, removing almost all organisms in 24 to 48 hours of oral administration. This is followed unfortunately by the rapid development of resistant strains within three to four days. This antibiotic is sparingly absorbed from the gastrointestinal tract. Following oral administration, there is no toxicity. It cannot be recommended as an intestinal antiseptic because of the rapid development of resistant strains of organisms. It is of no value in the postoperative paralytic ileus phase.

Chlortetracycline.—Chlortetracycline is a broad spectrum antibiotic with bactericidal properties. It removes bacteria from the gastrointestinal tract moderately rapidly, but unfortunately there is outgrowth of resistant organisms. Micrococcus pyogenes and Proteus organisms appear on about the third or fourth day following suppression of the coliform bacteria. If Proteus organisms grow out first, the Micrococcus pyogenes will be inhibited. Should the Micrococcus pyogenes grow out first, serious complications may result. About 30% of staphylococci are now resistant to chlortetracycline, and some 40% of these organisms produce a potent enterotoxin. This enterotoxin is capable of producing the so-called choleriform syndrome, consisting of vomiting, bloody diarrhea, hyperthemia, and collapse. The course may be rapidly fatal, even though the complication is recognized early and proper treatment is instituted immediately.

Furthermore, the antibiotic is absorbed and not retained in the gastrointestinal tract during the postoperative paralytic phase. It is not recommended as an intestinal antiseptic.

Oxytetracycline.—Oxytetracycline has very much the same properties as chlortetracycline. For the same reason, it is not recommended as an intestinal antiseptic.

Chloramphenicol.—Chloramphenicol has limited activity. Because of its toxic reaction and high degree of absorption from the gastrointestinal tract, it is not recommended as an intestinal antiseptic.

Neomycin.—Neomycin is a broad spectrum antibiotic with bactericidal properties. It is capable of sterilizing the gastrointestinal tract in two to three hours when administered together with castor oil. After contact with feces for 15 minutes in concentrations that are readily maintained in the gastrointestinal tract, no viable bacteria can be isolated. This antibiotic has only limited activity against Shigella organisms. Aerobacter aerogenes grows out in approximately 10% of cases. Neomycin is not recommended as an intestinal antiseptic when used alone.

Neomycin and Phthalylsulfathiazole.—The administration of neomycin and phthalylsulfathiazole combined gives excellent results. The phthalylsulfathiazole inhibits the outgrowth of Aerobacter aerogenes. This combination is undoubtedly the best available material for intestinal antisepsis now available. Action is maintained as long as the drugs are retained in the gastrointestinal tract. Both of these substances are absorbed from the gastroenteric tract to a limited degree.

CLINICAL APPLICATION OF NEOMYCIN AND PHTHALYLSULFATHIAZOLE

Patients can be divided into three groups. The first consists of persons to whom purgatives may be given. Partial obstruction is present in the second group, necessitating more cautious handling and gradual decompression of the bowel. The third group is comprised of patients having acute or complete intestinal obstruction, stab wounds, and gunshot wounds necessitating urgent abdominal exploration. In this group preoperative preparation directed toward decompression of the bowel or alteration of the intestinal flora is not feasible. Following are the outlines of the usual treatment in these three groups:

Group 1.—The complete preparation requires 20 hours in group 1. Measures include a low residue diet. At 1 p. m. 60 cc. of castor oil, 1.0 gm. of neomycin, and 1.5 gm. of phthalylsulfathiazole are given. At 2 p. m., 3 p. m., and 4 p. m. 1.0 gm. of neomycin, and 1.5 gm. of phthalylsulfathiazole are given. At 8 p. m., 12 midnight, 4 a. m., and 8 a. m., or every four hours until operation, 1.0 gm. of neomycin and 1.5 gm. of phthalylsulfathiazole are given. The operation is performed at 9 a. m.

Group 2.—In group 2 the period of preparation is determined by the length of time required to decompress the bowel. No purgation is necessary. Gastric suction is continued until the bowel is decompressed and gas is passed. Neomycin in doses of 1.0 gm. and phthalylsulfathiazole in doses of 1.5 gm. are given for a minimum of 24 hours or until optimal mechanical preparation is obtained.

Group 3.—In group 3 urgent surgical treatment is required as soon as the general condition of the patient warrants. Should it become necessary to resect the bowel, do primary anastomoses, or close large defects in the bowel, decompression is performed transabdominally and the bowel is flooded with 1% neomycin solution. Frequently a liter of solution is injected into the lumen of the small and large bowels. Adults will tolerate the introduction of 2.0 gm. of neomycin into the peritoneal cavity. Neomycin and phthalylsulfathiazole contained in the bowel will continue to be active throughout the period of postoperative paralytic ileus.

COMMENT

Intestinal antisepsis has a definite place in our medical armamentarium. Experimentally it can be shown that the healing of the wound at the line of anastomosis is changed from the secondary healing of an infected contaminated wound to healing that closely resembles primary repair. The experimental demonstration that 50% of animals will survive following ligation of the blood supply to segments of bowel of sufficient length to caus the death of all untreated animals is again strong ev dence that removal of pathogenic bacteria from th lumen of the bowel gives considerable protection to ti sues with markedly impaired blood supply.

Postoperative peritonitis or disruption of the sutu line and fistula formation has not occurred in a sing patient under my care since 1941, when succinylsulf thiazole became available. Furthermore, wound infe tions, especially those caused by the coliform organis have become extremely rare, even though open sutu of bowel is done regularly.

The open suture method of bowel anastomosis can done safely following proper application of intesti antisepsis. This permits more accurate approximation bowel edges, with less tension, a better blood supply, l edema, and uncomplicated healing.

The temperature seldom rises more than 1 degree the first day after resection and primary anastomosis the colon and remains normal thereafter. The entire co valescence is much simplified.

Dixon and Benson [23] showed that, after closure of colostomy, 80% of wounds healed primarily when t patient was prepared with succinylsulfathiazole as co pared to 8% when intestinal antiseptics were not us Pemberton, Black, and Maino [24] showed a change mortality due to peritonitis following surgery of the lar intestine from 6.1% in 1934-1940 to 1.6% in 194 1942 and in 1.4% in 1942-1943 after intestinal antis sis was practiced.

The practice of intestinal antisepsis does not prolo the period of preoperative preparation. As soon as t bowel can be prepared mechanically, it can now be p pared bacteriologically. It does not require so much an hour's contact of a readily attained and maintain concentration of neomycin with the fecal contents of t bowel to render them essentially sterile. Phthalyls fathiazole given at the same time will inhibit the o growth of Aerobacter aerogenes.

These intestinal antiseptics will remain in the bo during the period of postoperative ileus and contin their effectiveness. Once bowel evacuations are reesta lished, the drugs can be again administered. They ne not be given postoperatively except when defects a closed or primary anastomoses of the bowel are p formed.

It is most inconvenient that the aspects of intesti antisepsis are so changeable, as they are in the entire fie of antibacterial therapy. What is fact today must be mo fied tomorrow, because the variables will have chang again. No sooner is an effective antibacterial age found than a new group of resistant variants appear.

Succinylsulfathiazole, with its slow action and narro bacterial spectrum, has continued to be an effecti intestinal antiseptic against most of the pathogen organisms in the gastrointestinal tract of man. The u of succinylsulfathiazole is so limited that a widesprea evolution of resistant organisms has not occurred. F this reason and because resistant pathogenic organis have developed following the use of many of the ant biotics, succinylsulfathiazole has remained useful in i testinal antisepsis and may become even more importa if resistant variants of pathogenic organisms develop against such a valuable intestinal antiseptic as neomycin.

Neomycin has continued to be as effective as an intestinal antiseptic in this community as when it was first used in December, 1949. A seasonal variation is noted when dogs are treated. During the hot, humid summer months in Galveston, no substance or combination of substances has been found that will appreciably lower the microbial population of the dog's intestinal tract. There is less tendency toward resistance in man. However, an Aerobacter aerogenes resistant to neomycin was first encountered during the summer of 1950.

A number of hemolytic and nonhemolytic streptococci are fairly resistant to neomycin. Under conditions of preparation of the bowel, the alpha Streptococcus faecalis, the usual inhabitant of human bowel, disappears very promptly and completely and does not reappear during the course of treatment. It is possible that resistant streptococci may eventually be found in certain communities. Attention is called to the fact that bacitracin is highly effective against streptococci, and it is only sparingly absorbed from the bowel. The occasion may arise when it will be desirable to add bacitracin to the combination of neomycin and phthalylsulfathiazole. Also polymyxin B is poorly absorbed from bowel and is quite active against Pseudomonas organisms.

It would be most helpful if the use of an antibiotic such as neomycin could be restricted to intestinal antisepsis. Neomycin ointment is being used rather widely for topical therapy in skin conditions, and it is not unlikely that many resistant variants will soon appear, with the resultant diminution of the value of neomycin as an intestinal antiseptic. In all probability, however, resistance will first become evident following the use of the ointments, and perhaps this widespread topical application will be discontinued before resistant streptococci occur in the bowel.

Chlortetracycline and oxytetracycline have rapidly become useless as intestinal antiseptics because their wide and frequent general use has resulted in 30% of Micrococcus pyogenes being resistant variants. Since 40% of these organisms produce potent enterotoxins, the overgrowth of these organisms in the intestinal tract too frequently establishes the serious complication called the "choleriformic syndrome" following oral administration of chlortetracycline and oxytetracycline.

With these considerations in mind, it is proposed that the use of neomycin be restricted to intestinal antisepsis in combination with phthalylsulfathiazole or other antibacterial agents that are poorly absorbed from the gastrointestinal tract. It may not be amiss to suggest that the A.M.A. Council on Pharmacy and Chemistry make recommendations as to the uses to which various antibiotics should be restricted. Especially the use of these valuable and specific therapeutic agents should be discouraged when they are not absolutely indicated.

CONCLUSIONS

Intestinal antisepsis is worth while. Neomycin and phthalylsulfathiazole (Sulfathalidine) given simultaneously are the best intestinal antiseptics now available.

918 Strand.

COUNCIL ON FOODS AND NUTRITION

WITHDRAWAL OF ACCEPTANCE OF SMA CONCENTRATED LIQUID

The Council on Foods and Nutrition has authorized the publication of the following statement.

James R. Wilson, M.D., *Secretary.*

After thoughtful consideration, the Council on Foods and Nutrition withdrew its acceptance of SMA Concentrated Liquid of the Wyeth Laboratories, Inc., on Oct. 8, 1953. In May, 1953, attention was called to the occurrence of convulsions in certain infants fed on a new formula of SMA Concentrated Liquid. This product was withdrawn from the market and replaced with another formula. However, reports of convulsions were again called to our attention. After this, vitamin B_6 was added to the formula. The evidence thus far available does not satisfy the Council that this simple addition corrects the basic difficulty. The problem needs further study. The Council will be pleased to consider new evidence concerning the acceptability of SMA Concentrated Liquid. SMA Powder remains a Council accepted product.

The following products have been accepted as conforming to the rules of the Council.

James R. Wilson, M.D., *Secretary.*

Heinz Junior Marcaroni and Cheese.

Ingredients: Marcaroni, cheese (cheddar), whole milk powder, cake flour, salt, and water.

Analysis (submitted by manufacturer).—Total solids 14.85%, moisture 85.15%, ash 1.12%, fat (by acid hydrolysis) 2.68%, protein (N × 6.25) 2.95%, crude fiber 0.26%, total sugar as sucrose 1.03%, natural reducing sugar 1.07%, acidity (as lactic) 0.13%, starch 6.64%, and salt 0.79%.

Vitamins and Minerals	Per 100 Gm.	
Carotene	25	I. U.
Thiamine	16.5	mcg.
Riboflavin	70	mcg.
Niacin	0.139	mg.
Calcium	78	mg.
Phosphorus	49	mg.
Iron	1.5	mg.
Copper	1.3	mg.

Calories.—0.67 per gram; 19.0 per ounce.

Use.—For use as a transition food for infants from semiliquid foods to adult foods.

Heinz Strained Rice and Cheese.

Ingredients: Cheese (cheddar), rice, wheat flour, cream, whole milk powder, salt, and water.

Analysis (submitted by manufacturer).—Total solids 15.26%, moisture 84.74%, ash 1.06%, fat (by acid hydrolysis) 4.12%, protein (N × 6.25) 2.81%, total sugar as sucrose 0.76%, natural reducing sugar 0.86%, crude fiber 0.06%, acidity (as lactic) 0.11%, starch 6.28%, and salt 0.79%.

Vitamins and Minerals	Per 100 Gm.	
Thiamine	14.1	mcg.
Riboflavin	77.0	mcg.
Niacin	0.124	mg.
Calcium	85.0	mg.
Phosphorus	58.0	mg.
Iron	0.20	mg.
Copper	0.013	mg.

Calories.—0.76 per gram; 21.6 per ounce.

Use.—For use as a transition food for infants from milk to semiliquid foods.

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STATE PHYSICIANS PLACEMENT ACTIVITIES

Physicians placement activities by state associations and by the American Medical Association have increased during 1953. This work in the A.M.A. is under the direction of the Council on Medical Service's Committee on Extension of Hospitals and Other Facilities. The committee began the year by stepping up its own work. States have been encouraged by the committee to improve the data on openings, to expand their contacts with sources of physicians, and to work more closely with communities needing a physician. The committee, in turn, has for the first time sought to publicize the services offered to physicians and communities by the A.M.A. and has developed a periodic reporting system for checking on both openings and requests for placements. As a part of this work, two regional conferences were scheduled during the year. The first was held in Memphis, Tenn., in March, the second in Asheville, N. C., in September.

Ten years ago relatively few states offered organized service in this field. Today there are 43 state physician placement services behind the communities seeking adequate medical aid. The amount and form of activity varies with the state but whether or not the state carries on such a program the placement service of the A.M.A. stands ready to assist both communities and physicians. If an active organization exists in the state, the A.M.A. serves as a clearing house, passing on to the states the requests that are received and providing information for physicians who are interested in more than one state.

What is meant by a good physician placement service? The director of the Virginia Council on Health and Medical Care offers this definition: "By a good service I mean one where requests from communities are carefully investigated to establish the need for a doctor; where there is personnel available to meet with community groups to give them the ABC's of getting doctors; where up-to-date information is sent monthly or at least quarterly to communities on available doctors and detailed information to doctors on communities; where periodic follow-up visits are made to communities to encourage them and answer their questions; and where contact is kept with the community and the local doctor to make certain that the new relationship is not spoiled by misunderstandings, and that the doctor, once located, stays."

The service in Virginia, under the direction of Edgar J. Fisher Jr., is making great strides toward alleviating the shortage of doctors in the rural areas. A direct request for guidance must come from an individual or group in the community. When that request is presented, an all-out effort is made toward securing the services needed. Success stories of such communities as Forest, Huddleston, and Montevideo, Va., are a few examples of how a united effort resulted in providing needed medical aid. Money was raised in each of these areas to build a clinic; adequate facilities brought, in some cases, not one doctor but two. According to various physician placement service directors, "a community can have necessary medical care if the citizens want it, are willing to work for it, and have the know-how to get it." Persons are usually willing to work for the things they really want.

The first time a physician is secured by a community a guiding hand may be needed. Those who operate a state placement service know their state—the communities, the medical persons, and the roads—and most of all they have had experience with the problems of obtaining a physician for a community. They are in contact with the medical schools in the area and the hospitals approved for the training of interns and residents; to their office go the letters of physicians who seek a practice in that state. The placement service of the Illinois State Medical Society, under the guiding hand of Harold M. Camp, M.D., puts strong emphasis on the need of a community. Cognizance is taken of the location of the community requesting assistance in securing a physician. Because good roads make distances a small consideration, communities as near as 10 miles to medical facilities are encouraged to use the existing medical aid. Communities are not encouraged to seek a physician when it is apparent that what they really are seeking is a "first aid man." This well-organized service has ample facilities for assisting both communities and physicians. Five class A medical schools, a generous loan fund for training prior to internship, and associated programs, achieved through the Illinois State Medical Society, are additional aids in meeting the medical needs of the state.

In Missouri, Mr. Raymond McIntyre, the field secretary of the state medical association, makes a personal visit to all communities that request assistance in obtaining a physician. His visit is highly valuable to the community; in telling what they have and what they need, the community takes inventory. This may be the first step toward the location of a home and a place to practice for the physician. The prior approval of local medical practitioners is sought before the community is listed as needing an additional practitioner. Such first-hand information facilitates the office work that will follow, when listings are sent to the physicians and when the inquiring physicians visit the office.

Most placement services put strong emphasis on personal contact, both with the physician and, where personnel permits, with the community. Written records of this information are highly important; mental files are lost for all practical purposes when a change in personnel occurs. In consulting such placement services as those in Texas, Ohio, Michigan, North Carolina, New York, and Virginia, it can be seen that much of their success can be attributed to the complete and up-to-date file systems. Placement service is for the assistance of communities seeking a physician; a physician seeking an assistant; an industry, college, institution, or public health group seeking a physician; and those seeking the services of a specialist, which means this service is available to the physicians seeking such openings. During the past year the state-operated physician placement services have handled requests from more than 2,700 physicians seeking a location. Since some physicians make inquiry in more than one state, duplications occur in this figure. In addition, 702 communities have sought the aid of these services. A strong placement service under the state medical association is visible proof that organized medicine is making an effort to help persons help themselves to adequate medical care.

RESECTION OF ANEURYSMS OF ABDOMINAL AORTA AND RESTORATION OF CONTINUITY WITH HOMOGRAFT

DeBakey and Cooley [1] point out that the survival period in cases of aortic aneurysms is relatively short, ranging from six months to two years in well over half of the patients, with only a few patients living more than several years after the onset of symptoms or establishment of diagnosis. The various attempts to treat aortic aneurysms in the past, whether by an attempt to promote thrombosis and fibrotic organization, by introduction of foreign material into it, or by the wrapping method to encourage periarterial fibroblastic reaction, have not given encouraging results. Extirpation of the aneurysm with restoration of blood flow appeared as the only logical surgical therapy in these cases.

Gross and his associates,[2] in their extensive experimentation with arterial grafts in dogs, advanced the principle that a satisfactory solution to the problem of bridging a gap in large arteries or in the aorta would lie in the direction of providing a vascular graft that would be viable, would resemble the normal vessel after implantation, could withstand intra-arterial pressures, would not cause thrombosis, and would not set up serious reaction in the original tissues. Experiments by Carrel and by Guthrie had demonstrated that transplantation of fresh arterial grafts from one animal to another had shown degrees of survival. Three main factors, according to Gross, that might influence the success or failure of an arterial graft, were (1) the viability of the vessel at the time of implantation, (2) the degree of immunological reaction between the host and the graft, and (3) the technique employed in making the anastomosis.

After much experimentation, Gross and associates developed a method for the preservation of arterial segments. This consists of storage of vessels in temperatures just above freezing (1 to 4 C) and immersing them in a mixture of 10% homologous serum in a balanced salt solution to which were added a buffer, a pH color indicator, and streptomycin and penicillin. Vessels to be stored have been removed from donor animals between one and four hours after death and have been kept as long as 42 days before they were successfully transplanted into other dogs. Tissue culture studies have shown that viability is maintained for 35 to 40 days in blood vessels stored in this manner. Segments of arteries or aortas have been secured from persons who have died suddenly without sepsis. These vessels have been stored in the manner described and have subsequently been used for human patients, when the need arose, to bridge gaps in large arteries. Segments of such preserved arteries or aortas have been grafted by Gross and his associates into human subjects, with promising results.

In 1951 Dubost [3] reported a case of abdominal aneurysm in which the aneurysm extended from below the origin of the renal arteries downward to involve the aortic bifurcation. He resected the aneurysm and reestablished the continuity of the aorta by utilizing a graft of human aorta preserved for 15 days in the medium as suggested by Gross. An end-to-end anastomosis was performed; the left common iliac and the left hypogastric arteries were sectioned; and the left common iliac was anastomosed to the graft by an end-to-side anastomosis. Three weeks later the patient was able to walk and had excellent pulsation in both legs.

DeBakey and Cooley report, in a recent communication,[1] on seven patients in whom aortic aneurysm was resected and the normal blood flow was restored by means of an aortic homograft. The aneurysm in six patients was of arteriosclerotic origin and in one of syphilitic origin. The aneurysms were all located in the segment of the aorta below the origin of the renal arteries. The age of the patients ranged from 47 to 74 years. There was one death in this series. The rest of the patients tolerated the operation well and have shown excellent early results. These authors also report on five additional cases in which the same procedure was performed with no fatalities and no complications. The aneurysms were all of arteriosclerotic origin and involved the bifurcation, which therefore had to be resected. Anticoagulants have not been used in these operations. The period of aortic occlusion varied from 48 to 102 minutes. The anastomotic procedure was found to be technically feasible in all of their cases despite rather extensive atheromatous changes in some. Even though the immediate results of the resection of these aneurysms were highly successful, it is perhaps much too early to predict the ultimate results.

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THE EFFECT OF ISONIAZID ON THE EMOTIONS

Because there has been some controversy regarding the effect of isoniazid on the emotions of tuberculous patients, an examination of the available facts is in order. According to one of the earlier reports [1] the apathy and drowsiness characteristically seen among many of the acutely ill tuberculous patients were completely eliminated by the second week of treatment in all instances. Some of these patients even became disciplinary problems before any objective signs of improvement could be noted. These and other workers published reports in which similar observations were made, but this aspect of treatment with isoniazid was not confirmed in a later report.[2]

The attitudes and emotional reactions of the patients are important factors in the treatment of tuberculosis, as was recognized by Osler, who said, "It is just as important to know what is in a man's head as what is in his chest if you want to predict the outcome of his pulmonary tuberculosis." For this reason Calden [3] set about to evaluate the attitudes of tuberculous patients and concluded that the sentence completion method, a projective technique widely used by clinical psychologists in a variety of hospital settings, modified to fit this group of patients, was highly valid.

Lorenz and co-workers [4] in an effort to reach a definite conclusion regarding the effect of isoniazid on the emotions of tuberculous patients studied 15 male patients selected at random before isoniazid treatment was started by obtaining (1) an introspective statement by the patient estimating his own mood and state of well-being; (2) a clinical evaluation of his emotional state by a trained observer; (3) an evaluation of his mood and attitude by psychological testing; and (4) a pain threshold determination.

The psychological tests included the Guilford inventory, which "has been shown to be an adequate indication of the extent to which a person is depressed or cheerful, introverted or extroverted, happy-go-lucky or serious-minded, and flighty or stable," and 5 of the 80 sentences in the Madison Sentence Completion Form: (1) The future looks . . .; (2) The chances of my getting better . . . ; (3) Ten years from now . . .; (4) I feel I am getting . . .; and (5) The longer I remain in bed . . . After two or three weeks of treatment the four indexes of emotional status were reapplied. Neither consistent nor significant emotional changes were found, and none of the patients became euphoric. This confirms the later reports, suggests that the elation observed in earlier patients was a reflection of indirect psychological factors, and demonstrates again the need for objective testing and cautious interpretation of findings especially when observing the effects of a new drug.

SYNTHESIS OF PITUITARY HORMONES

Du Vigneaud and his associates working at Cornell University have announced the total synthesis of the oxytocic hormone of the neurohypophysis.[1] This achievement is particularly significant in that it represents the first reported synthesis of a polypeptide hormone. In a recent editorial in THE JOURNAL,[2] attention was drawn to the remarkable advances made by this group of workers in the purification and identification of the oxytocic and pressor hormones. They established that the oxytocic hormone consisted of one equivalent each of eight amino acids and three equivalents of ammonia, and on the basis of various physical properties and chemical reactivities of the highly purified natural hormone they deduced the probable chemical structure. Despite the extreme technical difficulties that beset work of this nature, they succeeded in synthetizing this compound, which has proved to be virtually identical with the natural oxytocin in regard to biological activity and chemical and physical properties.

In parallel studies,[3] du Vigneaud and his associates have postulated a structural formula for vasopressin that they had previously shown to differ from oxytocin in that leucine and isoleucine were replaced by phenylalanine and arginine or phenylalanine and lysine, depending on whether the active principle was isolated from beef or hog glands.[4] They have prepared an octapeptide with a structure corresponding to that proposed for lysine-vasopressin, and their preliminary studies indicate that this compound possesses both pressor and antidiuretic activity.

The natural corollary of these studies will be the synthesis of closely related compounds so that the effect of structural changes on biological properties can be studied, with the ultimate expectation that the limitations of the natural products in clinical use may be overcome. The fact that there is apparently a fundamental difference between vasopressin from hog and beef pituitary glands suggests that considerable modification of the molecule may exist without loss of biological activity. Furthermore, if this difference is confirmed, it will represent an interesting example of hormonal species difference that may account for the clinical observation that sensitivity to posterior pituitary injections is apparently occasionally overcome by switching to another commercial preparation.

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THE PRESIDENT'S PAGE

A MONTHLY MESSAGE

The end of an old year and the beginning of a new one is both a sad and a happy time. It is an occasion for reflection on what might have been and resolution to do better in the future. It is also a time for taking count of our blessings. We in American medicine have much to be thankful for, although as individuals we might have innumerable complaints. This fact was brought home to me once more as I attended the Board meetings and House sessions in St. Louis earlier this month and walked through the aisles of exhibits at Keil Auditorium. Here were assembled nearly 3,000 doctors who took time from their practices to seek additional scientific knowledge for the benefit of their patients. And these men were there because they *wanted* to attend the A. M. A. Clinical Meeting, not because someone had *decreed* that they should.

My only regret is that there were not more physicians at the session. There is much of scientific value to be gained at these clinical meetings, and the doctors of America are afforded a splendid opportunity to demonstrate the efficacy of free medical enterprise and their interest therein.

In addition to the purely scientific aspects of the St. Louis meeting, there were important actions by the A. M. A. House of Delegates on social security, voluntary health insurance, medical ethics, medical education, hospital accreditation, military affairs, and a wide variety of other subjects affecting both physicians and the public. A detailed account of these actions will be found in another section of THE JOURNAL. I hope that every physician who reads this page will make it his business to familiarize himself with the details.

That brings me right up to what would be the number one item on the list if I were asked to suggest some New Year's resolutions for doctors: "Know your local and state medical societies and their activities. Then make yourself just as thoroughly acquainted with the activities and the policies of the A. M. A."

It is a source of constant wonderment to me that so many physicians are so utterly devoid of knowledge of the policies of the A. M. A. and their local and state medical societies. And I dare say that only a minority of doctors could enumerate the many good acts of public service being performed by their medical organizations.

Make the test yourself sometime. Ask a fellow physician if he can tell you what connection the American Medical Education Foundation has with the A. M. A. and your county and state medical societies. Or have him explain to you the action that was taken by the A. M. A. House of Delegates in June of this year relative to medical care for war veterans.

Frankly, I am chagrined with statements that begin: "Why doesn't the A. M. A. do this . . .?" Or, "Why must the A. M. A. do that . . .?" Actually the A. M. A., as represented by the officials you elect or hire, cannot do anything until you have designated your desires in the meetings of your local or state medical societies. *You* are the A. M. A.

Surely this lack of knowledge of which I speak is not due to a shortage of information. There are scores of medical journals published by county and state medical societies and by the A. M. A. And from the national headquarters of your association there flows a steady stream of printed booklets, brochures, stuffers, newsletters, mimeographed correspondence, and individual replies to an endless chain of special queries. Besides the printed or written word, there are available tape recordings, motion pictures, and film reproductions of television shows that tell the story of organized medicine. Supplementing all of these sources of information are the speakers who travel the length and breadth of the land telling the story of American medicine's service in the public interest.

Maybe I am barking up the wrong tree, but the only answer I can find to the riddle of why there are so many uninformed doctors is that a successful method of communicating ideas to the individual physician has not yet been devised either by his local and state societies or by the A. M. A. No one has yet worked out a sure-fire system of getting the busy doctor to read his medical journals or to look at the mail from the medical groups to which he belongs.

I am hopeful that what I have written here may help stir up some ideas on how to solve this problem. But, until a solution is found, I beg some consideration for my humble suggestion that individual physicians resolve to make it their business to become acquainted with what organized medicine is doing not only for the general public but for the doctor as well.

It is my sincerest wish that the year 1954 will bring to you and every member of your family the blessings of happiness, good health, and a full measure of the good things that we all desire for our loved ones. Above all I pray that God shall bring to the world—and thus to our lasting benefit—a real and permanent peace.

EDWARD J. MCCORMICK, M.D.
Toledo, Ohio

ORGANIZATION SECTION

ABSTRACT OF PROCEEDINGS OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION AT THE CLINICAL MEETING IN ST. LOUIS, DEC. 1-4, 1953

The actions of the House of Delegates at the St. Louis Meeting are herewith abstracted so that the readers may have this information in digest form. The official proceedings will be made available, as in the past, in a booklet, which will be sent to all members of the House of Delegates and officers of the American Medical Association by the Secretary. This booklet will not be available for several weeks.—ED.

Invocation

The Right Reverend Arthur C. Lichtenberger, Bishop of the Episcopal Diocese of Missouri, pronounced the following invocation:

Let us pray. Almighty God, who art the giver of light and health, who knowest how the sick have need of a physician, sanctify, we pray Thee, those whom Thou hast called to study and practice the art of healing and the prevention of disease and pain. Strengthen them in soul and body and grant that they may learn their art in dependence upon Thee, and practice it always under Thy sanction and to Thy glory. Strengthen them in body and soul. Give them wisdom and skill, sympathy and patience. And we pray, O Lord, that Thou wouldst govern in their deliberations these delegates here assembled with Thy purpose, illumine their minds with understanding and insight, that in all their decisions they may further Thy purpose for mankind. We ask it in the name of Jesus Christ, our Lord and Savior. Amen.

Preliminary Report of Reference Committee on Credentials

Dr. Walter E. Vest, Chairman, reported that 149 delegates had been seated and that there were a few others whose credentials were not in order but who would be seated later. The Speaker announced that a quorum was present.

Roll Call

The Speaker called the roll of the House, and 177 delegates were recorded as present.

General Practitioner of the Year

Dr. Dwight H. Murray, Chairman, Board of Trustees, presented the following announcement:

It is my pleasure to present the name of the general practitioner who has been selected for the annual award of the American Medical Association of General Practitioner of the Year. He is Dr. Joseph I. Greenwell of New Haven, Ky., 80-year-old active practitioner, who was born in Balltown, Ky., Nov. 27, 1873. He was educated in the Nelson County, Kentucky, public schools; at Cecilia College, from which he received his B.A. and M.A. degrees, and at the Louisville Hospital College of Medicine, from which he obtained his M.D. degree in 1900. For the last 53 years, Dr. Greenwell has practiced in Nelson, Hardin, LaRue, and Marion counties, mostly within a 25 mile radius of New Haven, where he has maintained his office throughout this period. He has been acting health officer for Nelson County for the last eight years and is a consulting physician for the Louisville and Nashville Railroad, and Gethsemane Abbey. During World War II he served four years as examining physician for the Nelson County *Selective Service Board.*

Perhaps the greatest source of professional pride for Dr. Greenwell has been the babies he has delivered, almost 4,300. Of these, more than 80 were born *this year. These deliveries* [illegible] ken place in everything from log cabins to the modern facilities of the new Flaget Memorial Hospital, Bardstown, which the doctor now uses almost exclusively.

Second only to the immediate welfare of his patients, Dr. Greenwell's greatest interest has been furtherance of the medical profession. He has been active at state, district, and county levels. Until his resignation this year, he served for 30 years as councillor for the fourth district of the Kentucky State Medical Association. He is a past president of the Nelson County and Muldraugh Hill Medical societies, and a member of the American, Kentucky State, and Southern medical associations. Dr. Greenwell has also been active in community affairs. He served 25 years as a member of the New Haven board of trustees and 14 years as mayor. Under his administration as mayor, townspeople saw the construction of New Haven's first sidewalks, the installation of street lights, and the erection of a public water works. He is a director and vice president of the Bank of New Haven. Dr. Greenwell and Miss Marie M. Rapier were united in marriage Nov. 25, 1903, and to this union were born 12 children. Eight are living. Two sons were lost during World War II, one being killed in action. Mrs. Greenwell died in May, 1950. The Board of Trustees is proud of a profession which can produce men of the caliber of Dr. Greenwell.

Adoption of Minutes of New York Annual Meeting

The minutes of the annual meeting held in New York, June 1 to 5, 1953, were adopted as printed and distributed to the members of the House of Delegates.

Report of Reference Committee on Rules and Order of Business

Dr. Joseph B. Copeland, Chairman, presented the following report, which was adopted:

Your Reference Committee on Rules and Order of Business recommends the following: (1) that the order of business be as published in the Handbook, with permission given to the Speaker to make any necessary adjustments unless there is objection from the House at that time; (2) that the Speaker, or, at his request, the President or the Chairman of the Board of Trustees, be granted permission to introduce to the House for an address persons who can give the members of the House pertinent or timely information; and (3) that the Speaker recess the House for lunch at a time to be determined by him.

Presentation of Medal to General Practitioner of the Year

Dr. Edward J. McCormick, President, presented the General Practitioner Gold Medal Award to Dr. Joseph I. Greenwell, New Haven, Ky., who accepted it with the following remarks:

Mr. Speaker, Members of the House of Delegates: I know that this house has many pressing and important matters before it, so I shall express my thanks for this great honor as briefly as possible. Needless to say, I am deeply moved by the honor that you have conferred on me.

We in Kentucky have always been proud of the fact that our state has provided the American Medical Association with more presidents than any other. Because of this, I feel especially honored to be the first Kentucky general practitioner to receive this award. While I am happy to have been singled out as the individual to receive this award, I cannot help but feel that in reality I am but a representative of Kentucky's medical profession. It has been my privilege to know well many of Kentucky's doctors and they are fine men devoted to service to their patients. There are many of them who are truly outstanding physicians. Today I am merely representing them. Again I want to thank you for this honor. It is the greatest in my life.

Remarks of the Speaker, Dr. James R. Reuling

The Speaker presented the following remarks, which were referred to the Reference Committee on Reports of Officers:

Members of the House of Delegates of the American Medical Association:

That there is much serious work for this and subsequent houses to do, there can be no doubt. In the opinion of your Speaker, things are not going too well. He believes times are just as troubled as they were when we had blanket bills before Congress which would have socialized the practice of medicine. There is a war of attrition going on. The socializers are not dead. They are still at work but taking little bites, nibbles here and nibbles there; we must all be alert to the change in tactics. There were over 259 bills introduced into the last Congress dealing with medicine and health, or having welfare implications affecting medicine, and from all indications this number will be exceeded in the coming session.

To touch on some of the problems that confront American medicine today and to mention only a few, we have nonservice-connected disability; dependent medical care; government subsidy in many, many fields—to education, both premedical and medical; government subsidy to hospitals; proposed government subsidy to students; Veterans Administration medical education and training progress; health and welfare agencies galore; the doctor draft; state aid; and civilian medical care.

Listen to reports carefully. You would all be surprised and astounded if you knew the hours of work and conferences, the study, the research and writing that go into the reports which are presented to you; the miles the President, the President-Elect, and the Trustees travel, as well as some of the members of this House and numerous members of the Association who serve on councils, bureaus, and committees.

You always do give reports careful attention, for as this speaker has said many times before, he has the greatest respect for the combined judgment of this body. You always come up with the right answers, which proves that you listen carefully. But now more than ever, it is necessary for you to listen, digest, and assimilate even more carefully than usual, for each and every one of you must be a missionary. When all of the reports have been heard and you have voted on the last proposition before this House is adjourned, your work as a delegate is not done. Your labors really at that point have only just begun, for, if we are to be effective, each and every one of us must be a missionary in our own community and in our own state to carry back to the grass roots the story, the problems, and the possible solutions to the problems, not only in improving the health and care of our citizens but also to protect them from the "well-doers." If the socializers are to be stopped, if we are to prevent bureaucratic control in Washington from making inroads into our lives and the lives of all of our citizens, if we are to keep medicine from being fettered, the responsibility lies on each and every one of us.

For years after this country was founded, one of the elements which made it strong was the habit of mutual assistance—neighbors giving aid to those less fortunate, community responsibility, not bureaucratic control, and aid at the local level, not someone at the top giving orders. The doctor at the local level has always been a key figure in community responsibility. The Fabian doctrine says control medicine and you can socialize everything else. There are a few in the profession who say "Why doesn't the county medical society or the state medical society or the American Medical Association do something about it?" That individual is very apt to be one who has lost his own personal sense of individual responsibility.

We have standing rules of the House that are procedural matters that should not be in the Bylaws. Your Speaker recommends that the House consider and adopt a standing rule of procedure that resolutions be in the hands of the secretary at least 48 hours prior to the meeting of the House. If such a rule is adopted, the exceptions presented in the Bylaws, that is, those originating in sections and those relating to business of an urgent nature, would still prevail. What would be the purpose of such a standing rule? There are several that are quite obvious that I have touched on in a letter sent to each of you recently.

1. It will give an opportunity to study the material and make more accurate references. 2. Resolutions can be numbered serially so that all of the delegates can identify them readily. 3. The resolutions can be published "by titles only" in the Daily Bulletin together with the names of the reference committees to which they are assigned. This will not only give the delegates accurate information, but members of the Association at the meeting will have an opportunity to appear before a reference committee in matters in which they are interested. 4. If resolutions have any implications that might lead to bad public relations or unfavorable press relations, such stigma can be eliminated or reduced by having the opportunity of discussing the resolution in advance of introduction. 5. The resolutions can be multigraphed in advance at headquarters, thereby taking much of the load off our small office staff at the time of the session. I would recommend that the reference committee give this matter serious consideration so that we may minimize such baseless and absurd articles as appeared after our last meeting under the title "Watch It Doc."

At the last meeting, there was unfortunate wording in a resolution introduced. The intent would have been clear to a first year high school student. The unfortunate wording would have been picked up had we had time to see the resolution in advance, and finally the action of the House could not possibly have had any such interpretation as appeared in the press. It occurred only because a copy of that resolution was left lying around and was picked up before the reference committee met, before any hearing had been held, before the reference committee wrote its report, and before the House had taken any action.

At this point, your attention is called to the mimeographed copies of resolutions that have been made in order to make your work easier. This was a new procedure at the last meeting, and I want to emphasize and stress a point which might be overlooked. The copies of these resolutions should be considered "confidential material." No copies are to be given to anyone. They should be confidential because until they are introduced and referred and until the reference committee has had hearings and has drawn up its report and finally until the House has voted on that report, all resolutions are quite rightly the opinion of the introducer or a small segment of the profession. Resolutions introduced do not constitute any action, opinion, or policy of the American Medical Association. To let your copies lie around loose where they might be picked up by someone prior to action having been taken would, to say the least, be a violation of good taste.

Your speaker would call attention to the necessity of your signing attendance slips each day for sessions of the House. These are necessary for several reasons: first, for the proper records at headquarters; secondly, that due credit be given for your presence in the published report of the proceedings; and finally there are some state associations that require attendance at all sessions in order that their delegates may be reimbursed for their expenses.

There are two reference committees which seldom have a large volume of material referred for their consideration: The Reference Committee on Hygiene and Public Health, "to which shall be referred all matters relating to hygiene and public health," and the Reference Committee on Industrial Health, "to which shall be referred all matters relating to workmen's compensation and those phases of medical care, including rehabilitation and public health administration, which affect the worker." It is your Speaker's opinion that these might well be combined into one reference committee and it is so recommended.

There are times when the Reference Committee on Miscellaneous Business is literally snowed under. The suggestion is made that we have two such committees, Miscellaneous Business A and Miscellaneous Business B, to which shall be referred alternately all other business not allocated to any of the enumerated committees or additional committees appointed pursuant to chapter XII, section 1, of the Bylaws. This is only a suggestion, and your speaker would recommend that the suggestion be referred to the Council on Constitution and Bylaws with such comment as the Reference Committee on Reports of Officers may wish to make.

The suggestion has been made by several that we have blackboards set up in each reference committee meeting room and that the chairman of each committee list thereon the material that his committee will hear and act on and also the hour at which each resolution will be heard. The suggestions are excellent except for one thing—time. It is the belief of your speaker that the publication in the Daily Bulletin may care for a part of this suggestion. However, the listing of the time at which a reference committee will hear a certain resolution is not realistic. If any of the chairmen at this meeting are able to do it, more power to them. If the committee to whom this report is referred can come up with any ideas or suggestions, fine. Your Speaker has been a member and has been chairman of reference committees. Time after time things that seemed controversial and might take two hours have been settled in five minutes. Contrariwise, a resolution that appeared on the surface to be perfectly innocuous had innumerable individuals who wanted to be heard and has taken hours to settle.

Report of Reference Committee on Reports of Officers

Dr. George M. Fister, Chairman, presented the following report, which was adopted:

Speaker James R. Reuling began his address at the Clinical Meeting on Dec. 1, 1953, with the timely warning that the struggle against socialization and compulsion of American medicine had not diminished. Methods and tactics have changed and we must be alert. He enumerated many of the problems confronting us. Your committee wishes to emphasize the wisdom of his suggestion that when meetings are completed, the work of a delegate has only begun. It is the missionary duty of a delegate to take back to, and discuss with, his colleagues the problems presented to the House and the conclusions reached for their solution. In order to implement this recommendation, your committee suggests that a résumé of the proceedings of the House be distributed by state or county societies to all members of the American Medical Association under their jurisdiction.

Speaker Reuling suggested important changes in procedure with a view to facilitating the business of the House. He recommended that, as nearly as possible, resolutions be in the possession of the Secretary 48 hours prior to the first meeting of the House. Your committee favors the adoption of this recommendation in the belief that such a procedure will disseminate information regarding resolutions and permit mimeographing, numbering, and leisure study. It is understood, however, that, as in the past, resolutions may be presented during sessions of the House. Your committee recommends that mimeographed, numbered copies of all resolutions be made available to delegates and that delegates consider the contents of resolutions confidential until the House has disposed of them. The Speaker called attention to the advisability of signing attendance slips. This is necessary in order that proper records may be compiled.

It was recommended that the Reference Committee on Hygiene and Public Health and the Reference Committee on Industrial Health be merged into one committee. Your committee approves this recommendation in principle, but believes it is a matter for action by the House.

Speaker Reuling requested opinions as to procedure in appearing at meetings of reference committees. It is suggested by your reference committee that members desiring to discuss certain subjects contact the chairmen of the reference committees involved and arrange a definite time for their appearance.

Reference Committees, Tellers, and Sergeants-at-Arms

Dr. James R. Reuling, Speaker, announced the appointment of Reference Committees, Tellers, and Sergeants-at-Arms, as follows:

Amendments to the Constitution and Bylaws

William L. Benedict, *Chairman,* Section on Ophthalmology
Frank J. Elias, Minnesota
Charles L. Farrell, Rhode Island
William M. Skipp, Ohio
Deering G. Smith, New Hampshire

Board of Trustees and Secretary, Reports of

John J. Masterson, *Chairman,* New York
James Q. Graves, Louisiana
Gordon F. Harkness, Section on Laryngology, Otology, and Rhinology
L. Howard Schriver, Ohio
Norman A. Welch, Massachusetts

Credentials

Walter E. Vest, *Chairman,* West Virginia
Vincent W. Archer, Virginia
Thomas M. D'Angelo, New York
Harlan English, Illinois
James P. Hammond, Vermont

Executive Session

Joseph D. McCarthy, *Chairman,* Nebraska
Reuben B. Chrisman Jr., Florida
Lawrence R. Dame, Massachusetts
John S. DeTar, Michigan
Peter M. Murray, New York

Hygiene and Public Health

Thurman B. Givan, *Chairman,* New York
Jay J. Crane, Section on Urology
William L. Estes Jr., Pennsylvania
Hoyt B. Woolley, Idaho
Stanley B. Weld, Connecticut

Industrial Health

Frank A. MacDonald, *Chairman,* California
William R. Brooksher, Arkansas
James Stevenson, Oklahoma
William Weston Jr., South Carolina
Dexter H. Witte, Wisconsin

Insurance and Medical Service

John M. Porter, *Chairman,* Kansas
Eustace A. Allen, Georgia
Henry S. Ruth, Section on Anesthesiology
Robert B. Wood, Tennessee
Willard A. Wright, North Dakota

Legislation and Public Relations

Bruce Underwood, *Chairman,* Kentucky
R. B. Homan Jr., Texas
J. Stanley Kenney, New York
H. Kenneth Scatliff, Illinois
C. F. Strosnider, North Carolina

Medical Education and Hospitals

James Z. Appel, *Chairman,* Pennsylvania
Warde B. Allan, Maryland
Warren W. Furey, Illinois
Charles T. Stone Sr., Section on Internal Medicine
Lewis A. Alesen, California

Medical Military Affairs

William A. Hyland, *Chairman,* Michigan
H. Russell Brown, South Dakota
Donald C. Conzett, Iowa
J. Lafe Ludwig, California
Wendell C. Stover, Indiana

Miscellaneous Business

H. Gordon MacLean, *Chairman*, California
J. Wallace Hurff, New Jersey
Harold B. Gardner, Pennsylvania
Truman C. Terrell, Texas
Martyn A. Vickers, Maine

Reports of Officers

George M. Fister, *Chairman*, Utah
Maurice J. Dattelbaum, New York
J. Paul Jones, Alabama
William H. Halley, Colorado
George A. Woodhouse, Ohio

Rules and Order of Business

Joseph B. Copeland, *Chairman*, Texas
Herbert H. Bauckus, New York
William W. Baum, Oregon
Edward L. Compere, Section on Orthopedic Surgery
O. J. Campbell, Minnesota

Sections and Section Work

Jesse D. Hamer, *Chairman*, Arizona
W. Andrew Bunten, Wyoming
Raymond F. Peterson, Montana
J. Mather Pfeiffenberger, Illinois
Alvia G. Young, Washington

Tellers

Carrington Williams Sr., *Chairman*, Virginia
William F. Brennan, Pennsylvania
Raymond T. Holden, District of Columbia
Wesley W. Hall, Nevada
Rolla B. Wray, Missouri

Sergeants-at-Arms

Louis W. Jones, *Master Sergeant*, Pennsylvania
John F. Lucas, Mississippi
Karl R. Ruddell, Indiana

Address of the President, Dr. Edward J. McCormick

Dr. Edward J. McCormick, President, presented the following address, which was referred to the Reference Committee on Reports of Officers:

Mr. Speaker and Members of the House of Delegates:

During the meeting of the House of Delegates in New York in June, 1953, I brought to your attention certain activities and problems of American Medicine. I mentioned the distribution of doctors, the 24-hour emergency call service offered by more than 600 county medical societies, and the necessity of fearless grievance and mediation committees in each county and state society. I spoke to you of physician-hospital relationships and of the necessity for continued expansion of voluntary health insurance plans. I encouraged physicians to take part as leaders in the activities of service clubs, fraternal associations, parent-teacher groups, church associations, and others. I made reference to our relationship with the representatives of the press, radio, and television. I asked for unity within the profession.

Since the June meeting of the American Medical Association, countless hours have been spent on planes and trains and in meetings, and I come now to give you the impressions gained during these weeks and months as your President and spokesman.

I am happy to report that progress has been made in the development and implementation of the nine major points which I brought to your attention in New York in June, 1953. However, I would be derelict in my duty and unfaithful to the oath of my office if I did not point out some of our failures.

You cannot have an understanding of medicine's problems unless you meet the press, the people and patients, doctors, and industrialists, and executives on a wide base of transcontinental travel and multiplicity of contacts at all levels. I once believed that after all my years of experience in medical circles at county, state, and national levels, I was well-qualified for the honor which you bestowed on me. However, I soon discovered, and I presume so did many who came into this high office before me, that I had much to learn despite all of my previous experience. And what have I learned in the past six months that would be of interest to this House of Delegates?

First and uppermost is the fact that our relations with the public are not good. Since the Oath of Hippocrates was written, five centuries before Christ, there have been fewer "crooks" in medicine than in any other group with the exception of the ministry, and I say this without reservation or qualification! Yet, as I make this statement, I feel that it is necessary for you, as representatives of your state medical associations, to return to your home and campaign for stronger grievance committees and the expulsion of those who disregard the Principles of Medical Ethics.

Please understand that I am diametrically opposed to a program of national publicity emphasizing the defects of a small number of doctors and heaping on the great percentage of honest physicians and surgeons, who work 12 to 18 hours a day, the sins of a few. But we cannot close our minds to the need for some action that would restore the full confidence of the public in our profession. I have come to the conclusion that bad public relations is a "grass roots" problem and cannot be solved at the national level. Good public opinion cannot be bought. It must be earned through exemplary conduct and genuine service in the public interest. Whatever money the American Medical Association and its constituent societies spend for public education and public relations is wasted unless individual physicians take wholehearted interest in assuring the success of these ventures.

Doctors must know more of public thinking regarding fees and physician-patient relationship if we are to continue to exist as free scientists and practitioners. The thousands of letters which I have received and which come to the headquarters office, plus derogatory articles in the press and magazines, leave little room for argument. We have a policing job to do, and it must be done through the medium of existing disciplinary machinery. It cannot be done in any other way.

The great growth of voluntary health and hospital insurance plans and the advent of catastrophic coverage, the unprecedented accomplishments of the past 25 years, the great increase in longevity, the excellent work of our various councils and committees in the American Medical Association are easily forgotten, but not so unethical practices of any kind. True, some of our critics are unfair, explaining only that which is bad and giving no credit for positive accomplishments. And some, I find, are not even sympathetic to American fundamentals. As citizens and doctors we must not give them a target to shoot at. No group of humans can be perfect, but we can seek perfection in the discharge of our humanitarian duties—and in seeking perfection we shall find good public relations! There is no other answer.

In the past six months I have also learned that our economic problems are not solved, as some physicians seem to believe. As a matter of fact, these problems have increased. The socialistic trend and government intrusion into the business and affairs of the people have shown little evidence of change. The greatest battle for the preservation of democracy is yet to come. I see it in the demands of some labor unions and in the desires of certain professional veterans to continue unabated the ever-increasing government support of more than 20 million veterans. I see it in the drafting of doctors for an ever-growing dependent care program, as well as in proposals from federal sources that the government buy hospital and medical care insurance for members of the armed forces and their families. I recognize it in the long list of diseases presumed to be service-connected. It appears in the statements of elected public officials who believe that it is "good politics" to encourage federal handouts of all kinds and who, by innuendo and by word, magnify the medical needs of our people and pay little heed to the many more important problems affecting American men and women.

If America is to survive as a democracy, in which man is recognized as having been created "in the image and likeness of God," possessed of a soul, and having certain inalienable rights and privileges, then we, as doctors and leaders, must request that all other groups, including writers, journalists, union leaders, and industrialists adopt a similar code of ethics, or, if they have such a code, make it just as operative as they expect the medical code of ethics to be. Our friends and fellow citizens in other vocations, including public officials, must conduct their affairs with the same dignity and integrity manifested by the great majority of physicians. If we police our own ranks, as we have tried to do for centuries, they should do likewise.

Finally, It would seem to me that, since medicine in America is the best in the world and improving every day, orators, writers, and others might do well to devote more of their attention to far greater problems affecting the health and welfare of the people, such as housing, sanitation, juvenile delinquency, nutrition, un-Americanism in many of our institutions, dishonesty of public officials, gambling, gangsterism, and other cancers on our national economy, including the collectivists and socialists and communists, and those who, having lost sight of God, have forgotten that we are a great nation because of a Constitution written by men with a deep faith in the Supreme Being, faith in opportunity, and in private enterprise.

The councils and committees of the American Medical Association have done and are doing magnificent work in the field of public service. I know of no other organization which spends so much time and money in altruistic purposes. It seems, however, that many doctors and most laymen know little of the unselfish accomplishments of medical organizations. It would seem that newer techniques should be developed to carry to physicians and others the problems which daily confront your officers, Board of Trustees, and councils and committees. I make this statement because I am convinced that the great percentage of our membership, while acquainted with our scientific endeavors, are devoid of knowledge of the hours of work and travel given without remuneration by the elected officials of the American Medical Association family and members of this House of Delegates. I should like to see this information carried into every doctor's home—short, concise, and readable.

For example, I dare say that there are many physicians in St. Louis today who have no knowledge of the work and decisions of our Committee on Legislation. How can they be forceful in discussing these problems? How can they be encouraged to read the Organization Section of The Journal? Is there a better way of bringing greater understanding of medicoeconomic problems into the doctor's living room? Can a better method be designed to bring medical problems to the busy doctors? I submit these questions to this House of Delegates and to our state executives and county societies in good faith, with the firm conviction that, despite our efforts and hard work, unwarranted criticism comes from many sources due to lack of knowledge on the part of some physicians and laymen of our aims and purposes.

There are many other subjects that I might discuss, but time will not permit. I should like to suggest to this House of Delegates and to our Council on Medical Education and Hospitals that the time has come when we should insist that a reasonable amount of time be devoted by our medical school faculties to the formal teaching of medical ethics and the religious fundamentals which are just as evident in the Oath of Hippocrates and the Principles of Medical Ethics as they are in the Constitution of the United States of America. Here again is a job for the "grass roots," in this case the medical schools. On them must rest the responsibility of graduating men and women of character who will be immune to socialism and communism as well as unethical practices in medicine. It is comparatively simple to train a person to be upright and honest, but it is difficult to convert such a person when he or she has strayed from the path of honor and brought reproach on the world's most honorable profession.

When one becomes President of the American Medical ssociation, he has received medicine's greatest honor! He ise has assumed a position which is rapidly becoming a full-time responsibility. Permit me to admit that without the excellent staff provided at the headquarters office I would be unable to carry on. Every council and committee, each and every department head has rushed to my rescue on many occasions! We have as fine and capable a group laboring for us day and night in Chicago and in Washington as has ever been assembled by any major organization. To them one and all, my gratitude and thanks.

To you, my colleagues of this House of Delegates, I wish to restate my earnest pledge to carry your thinking throughout our great country. I hope that six months from now, after having completed the mission to which I have dedicated myself, I can find peace of soul and heart because of few, if any, errors of omission or commission. This goal I shall be able to achieve only with your help and support. Let us all resolve here and now to carry on in our efforts to bring the best medical care to all the people in our native land and to oppose each and every suggestion which directly or indirectly would seem to jeopardize our great democracy.

Report of Reference Committee on Reports of Officers

Dr. George M. Fister, Chairman, submitted the following report, which was adopted:

Your committee received for consideration the address of President Edward J. McCormick. At the Clinical Meeting on Dec. 1, 1953, and in a brilliant and factual manner, President McCormick reviewed the first six months of his stewardship, and indicated the arduous road that our profession must travel with increasing vigilance and unity if our objectives are to be realized and our ambitions brought to fruition. In his New York address in June, 1953, President McCormick recommended nine major activities to the accomplishment of which he has directed his energies. It is gratifying to have him state that progress has been made. Your committee believes that this statement is too modest. Our relations with the public must and shall be improved. President McCormick points the way. Your committee believes, with him, that public relations is a "grass roots" problem, and interprets "grass roots" to mean every physician in his every contact with every patient every day. This is fundamental.

A committee, on state or county level, to hear and evaluate complaints and criticisms is of value in direct ratio with the courage of its personnel. The legal concept that the greatest deterrent to crime is the certainty of punishment should enhance the value of such committees.

We, as a profession, are subjected to much unfair criticism from the public and, regrettably, from some of our colleagues. Of our unethical and critical colleagues we may paraphrase and say, "Never before have so few done so much harm to so many." President McCormick suggests the remedy. He advises that "we seek perfection in the discharge of our humanitarian duties" and that we demand integrity and intellectual honesty in our critics.

If we are to acquaint the public with our real objectives and accomplishments, we must educate ourselves. President McCormick suggests that all physicians read the Organizational Section of The Journal and that the Principles of Medical Ethics be taught in medical colleges. Your committee congratulates President McCormick on his courageous attitude regarding government intrusion into what should be the private affairs of our people. Attention is called particularly to the arduous duties of the Presidential office, and to its physical, mental, and professional sacrifices.

Your committee suggests that this splendid address be disseminated as widely as possible through all channels of publicity.

Presentation of Drs. Julian P. Price and Carl H. Gellenthien

The Speaker presented to the House of Delegates for recognition Dr. Julian P. Price, Florence, S. C., Trustee, and Dr. Carl H. Gellenthien, Valmora, N. Mex., Vice President, who had been elected to their respective offices at the New York meeting but who, in the rush preceding adjournment, had not been introduced to the House.

Presentation and Address of Dr. Chester S. Keefer

Dr. Edward J. McCormick, President, was granted the privilege of the floor for the introduction of Dr. Chester S. Keefer, Special Assistant to the Secretary of the United States Department of Health, Education, and Welfare. Dr. Keefer addressed the House as follows:

Dr. McCormick, Mr. Speaker, Members of the House, Fellow Members: I wish to thank your president for inviting me to come here this morning and for the opportunity of addressing you. In June, 1953, Mrs. Hobby, the Secretary of the Department of Health, Education, and Welfare, addressed the House of Delegates and outlined the responsibilities of the Department in the areas of health. She defined the responsibilities as those functions which serve the health of the nation without affecting the doctor-patient relationship in medical practice. The Secretary directed attention to the department's activity in public health, in research and rehabilitation. These are matters that this Association has been concerned with for many years, because you have an intelligent grasp of their significance in the conservation of the human resources of the nation. Mrs. Hobby also stated that the common objective of the department and of the medical profession was to promote the best medical care and the highest level of health possible for the people. The means of reaching these goals raise many of the current problems, but I submit that with the leadership of this Association and the other health professions solutions can and will be found that will receive public acceptance. In the past, this Association has taken positive action with respect to advocating measures which are clearly in the public interest and general welfare, so that the people are justified now in looking to you for such leadership in the future.

The medical care of today is quite different from 25 years ago, and I am inclined to believe that you will agree that its present high quality is due to the principles that this Association has insisted on in the past, namely to advance the boundaries of medical knowledge, to elevate the standards of education, and to base the practice of our art on scientific principles and sound experience. It is proper therefore that the Association should continue to support scientific research, to examine the standards of medical education, and to further its development. This is the foundation on which the high quality of medical care rests. It is the function of the Association to utter the voice of medical science to the public concerning the significance and importance of research and medical education in the health problems of our country today.

I need not remind you that this Association has been responsible in large part for elevating the standards of medical education in the United States. This has been accomplished in the past by insisting on high standards, by approving or disapproving the performance of schools, and by informing the public of your ideals and objectives. This has been successful because the standards have been related to quality.

There are at least four agencies that are responsible for high quality of medical care and for the promotion and maintenance of the good health of the people. They are the medical schools, the hospitals and their staffs, the public health departments, the medical and other health professions.

First let me say a few words about the medical schools. The American Medical Association has had a continuing interest in medical education. The standards of such education are under constant examination by the Council on Medical Education and Hospitals, and periodic national surveys have been made and sponsored by your organization with the support of others. The most recent survey by the Committee on Survey of Medical Education has been reported in a book entitled "Medical Schools in the United States at Mid-Century." This study shows what progress has been made in medical education in the United States since 1910, but one also gathers from these reports that there are many problems that need urgent attention because there are danger signals ahead. When a patient is placed on the "danger list" by the physician it is putting the family, the friends, and the public on notice. The outlook is uncertain, and the patient may die. Bold action, soundly conceived, will be necessary if the standards of our medical schools are to be maintained and if they are to continue to meet their mounting responsibilities. Increased financial support from the public is urgently needed to meet the rising deficits. This is a challenge that must be met. The attitude of physicians should be clear in the matter of education, for the strength and credit of the profession, the great interest of the public health, and the welfare of the individual all depend on the quality of training given in our medical schools. The medical schools need the full support of the profession and of the public. The people need to be informed that they have a vital stake in the quality of medical care, and that is determined in large part by the education of our doctors and other members of the health professions. The medical schools of this country are almost equally divided between two types; the tax-supported, and the non-tax-supported. This has proved to be a healthy balance. However, the greatly increased financial burden which weighs equally upon all is jeopardizing particularly the future of the private institutions without large financial resources. The American Medical Education Foundation and the National Fund for Medical Education are making valiant and praiseworthy efforts to meet the increased costs of medical education within the framework of our private enterprise system and without resort to Federal assistance. May their efforts prosper, for this is not a time when this country can afford to cut down on its production of medical manpower.

Aside from the education of the members of the health professions, it is necessary that adequate facilities be available in the community so that doctors may utilize their skills and apply new scientific knowledge in the prevention and treatment of illness. Of great importance are the hospitals of the nation because these facilities and their staffs play an important role in providing essential health services to the committee that they serve. The public should be informed that equal opportunity for medical care is concerned with community facilities as well as adequately trained personnel. When facilities increase and improve and when well-educated physicians are trained, then the quality of medical care improves. This statement does not imply that the facilities need be the same in all areas. They must be adapted to the region and they must be selected in accordance with need. *This is a matter for each local community to decide for itself.*

The third agency that plays an important part in our health team are the health officers and their departments. They serve, educate, and protect the community against the hazards of illness. They assist the practicing physician in carrying out his mission and in safeguarding the public health. Their education, their development, and their opportunities are important to all of us.

The fourth agency that holds the major responsibility for promoting and maintaining the health of the nation is the medical profession. The profession must be the leader, and to reach their full potential requires the cooperation and the coordination of activities of the other health professions, including dentists, nurses, pharmacists, and the many groups of paramedical and technical workers. In short, the health of the nation is promoted by a team, and the medical profession must be the leader of the entire group. For this team to be most effective there must be good personal relations and understanding between the organized professions and the people whom they serve. The so-called doctor-patient relationship which we all prize so highly and which is the basis for the present day medical practice must extend to group relations, that is to say, the relations between the organized health professions and the people must be carried on with the same depth of understanding as the relationship between the individual doctor and his patient. One of the best ways of accomplishing good group relationships is for the profession to understand fully the needs of the people and for the profession to place themselves in the position of the patient.

The total problems of medical care will continue to require constant study. The problems are very broad, and include medical education, medical research, hospitals and their staffs, public health departments, the professions, and the people. The major question before us is how can we continue to produce and promote the finest medical care in the world today. Our needs are for improved medical education; for coordination and extension of facilities and personnel; geographical extension of services; and bringing the cost within the reach of more people. These needs will be met in our free society by the combined efforts of the laymen, and the members of the health professions working closely together with a sympathetic understanding in their local communities. The voluntary way has been most successful in the past and there are reasons to believe that it will continue in the future. We need experimentation in the field of medical care in order to find the answers to many problems. Experimentation should be carried out by the profession with the full cooperation of the people of the community and the maximum decision should be made at the local community level.

In 1910 the American Medical Association held its 61st annual meeting here in St. Louis. Dr. William H. Welch was President, and he selected for his Presidential Address the title, "The Fields of Usefulness of the American Medical Association." The final two paragraphs of his speech were devoted to the topic of "organized effort." They are as applicable today as they were 43 years ago, so with your permission I am going to conclude by reading them.

"Organized effort is a distinguishing mark of modern civilization. It is as essential for the advancement of science, of education, of social and industrial reform, of philanthropic endeavor, as for the promotion of commerce. With the remarkable progress of medical science, especially during the last three decades, man's power to control disease has been vastly increased, and the sphere of usefulness of the physician has been correspondingly widened, and with advancing knowledge will continue to expand. The skill and knowledge of the physician and sanitarian have acquired a new and ever increasing importance and significance in the movements for social amelioration, for improvement of the conditions of labor and of living, for the conservation and most efficient utilization of the productive energy of the world, and for the reclamation of regions now yielding no return to civilization.

"Among the organized forces for advancing the prosperity, the happiness and the well being of the people of this country, the American Medical Association has an important part to play. We are justified in the confidence that, with the united support and loyalty of the profession, the association, broadly representative and standing for the best ideals of medical science and art and for professional and civic righteousness, will contribute a beneficient share to the working out of our national destiny."

Introduction and Address of President of American Dental Association

The Speaker introduced Dr. Leslie M. Fitzgerald, President of the American Dental Association, who addressed the House as follows:

Dr. McCormick, Mr. Speaker, Trustees, Members of the House of Delegates of the American Medical Association: It is a great privilege for me to be here today to represent the officers and trustees of the American Dental Association.

I thought it might be of a little interest to some of you to know a few of the facts of our organization. Many of you know them, possibly some of you do not. The American Dental Association has a membership of approximately 80,000. We take great pride in the fact of such a large percentage of the practicing dentists being members of the American Dental Association. Eight out of every nine practicing dentists in the United States are members of the American Dental Association. Our organization is very similar to yours, operating under a house of delegates and a board of trustees.

The American Medical Association and the American Dental Association represent the two major health professional organizations and therefore share many responsibilities, such as improvement of the health of the public by the prevention and control of disease, advancement of the art and science of medicine, constant vigilance against political encroachment on the health profession services to the public, and improvement of public relations.

At this time, I would like to mention briefly one field in which the two professions have shown spectacularly close cooperation. I am referring to the fluoridation of the public water supplies, one of the greatest advances in the history of preventive dentistry. The story of fluoridation is a stirring tribute to research. The program is now in operation in over 800 communities and one out of every nine persons in the United States is routinely drinking fluoridated water. Local medical and dental societies have taken an active role in encouraging this measure. The cooperation of the medical and dental professions on this measure seems to me to be a graphic example of the health professions living up to their highest responsibility, the prevention and control of disease.

The united efforts of the American Medical Associatior and the American Dental Association also have done much t defeat unsound and ruinous legislation at both the nationa and local level. The American Dental Association House o Delegates, at its annual meeting in Cleveland last Septembe again reaffirmed its opposition to the inclusion of dentists i the O. A. S. I. program. The vote was 6 to 1. The America Dental Association has consistently voiced its opposition t all forms of compulsory health insurance. It is on record favoring the proposed Jenkins-Keogh Bill.

In conclusion, I wish to state that unity and cooperatic of our organizations are basic. If the present high level health care is to be protected, constant vigilance must maintained against political encroachment on the health pr fession services to the public. When politics takes over, tl welfare of the individual patient becomes a secondary co sideration. The American Dental Association pledges its co tinued support of sound legislation for the advancement the art and science of medicine and for the betterment of tl health care of our nation. The great prestige of the heal professions rests firmly on a solid basis of organized strengt This the American Medical Association and the Americ Dental Association should preserve.

Introduction and Address of President of Woman's Auxilia

Mrs. Leo J. Schaefer, President of the Woman's Auxilia to the American Medical Association, was introduced by t Speaker, and presented the following address:

Mr. Speaker, Dr. McCormick, Dr. Martin, Board of Tr tees, and Members of the House of Delegates: I am ve pleased to have this opportunity to report to you on the pr ress of the Auxiliary and to bring greetings from the 64,0 members. Within the 48 state auxiliaries, the District Columbia, and the territories of Hawaii and Alaska, we ha more than 1,130 county auxiliaries. We are fully cogniz of the fact that we are an auxiliary to our parent organi tion, the American Medical Association, and as such und take projects approved by our Advisory Committee, wh will assist the medical profession in its program for the vancement of medicine and public health.

In reading the papers, the magazines, listening to the rac and watching TV, we are aware that people do want to kn about subjects relating to health. The Auxiliary, through state and county units, can make an important contribut to the community when it interprets the problems of medi care to the public. Programs for our Auxiliary meetings m be planned to inform our members on problems facing medical profession and ways in which physicians are solv them. As Auxiliary members we have a two fold service render, (1) education of ourselves in subjects relative to medical profession and (2) bringing this message of medic to our home communities through the organizations in wh we hold membership. There was a time not too many ye ago when it was not necessary for a physician's wife to informed concerning health problems that affect the pub but today she must be informed or offer no comments.

Members of the House of Delegates, we need your h The American Medical Association reports a membership 140,000. At the close of our June fiscal year we had 64, members. Our organization chairman is asking for a 1 increase in membership this year, but with your help we co double our membership. The present membership is carry the full program for the Auxiliary. The nurse recruitm program, with its scholarships, loan funds, and Future Nu Clubs in high schools is outstanding. No doubt you h heard of our contribution to the American Medical Educat Foundation fund. Last June for the third consecutive year gave $10,000 from our income. In addition the state auxilia contributed $22,630, and in June, 1954, we are positive amount will be doubled. We also take a little credit for the increased contributions from our physicians. We contribute annually $100 to the World Medical Association. Our only source of income is from our $1.00 annual dues per member. A membership paralleling that of the American Medical Association would increase our philanthropic projects. We are aware that *Today's Health* is an excellent medium for distributing authentic health information. People eagerly read medical articles in other magazines, so why not make authentic information available to these readers? Our goal this year is 64,000 subscriptions, or one subscription per member, which is double the subscriptions of last year. Since only 15% of the physicians subscribe to *Today's Health*, with your help we can reach our goal.

Other programs of the Auxiliary do not have such tangible records; their value cannot be estimated in dollars or numbers. We aim to be informed on legislation affecting medicine; we assist with the civil defense program; we inform ourselves concerning mental health, rural health, health days, voluntary health insurance, community health councils, the American Medical Association; the World Medical Association; the World Health Organization; and other health projects such as cancer, polio, and heart.

The conference of state presidents, presidents-elect, national chairmen, and officers held in Chicago last week was attended by representatives from all 48 states. We are grateful for the valuable assistance rendered by representatives from several departments of the American Medical Association and for the excellent address by your president, Dr. McCormick. Each member returned home more eager than ever to assist their state and county medical societies in any program assigned to them.

It has been my pleasure to attend 13 state auxiliary conventions, 4 state board meetings, and 5 other national meetings since June and to witness first hand the fine programs being developed. The Woman's Auxiliary to the American Medical Association truly exemplifies the slogan of this year "Together We Progress." May I add, with your continued help "Together We Can Progress" more rapidly. I thank you for this opportunity to be with you today.

Introduction of Student A. M. A. Delegates

The Speaker introduced Mr. John H. Caskey, Baylor University College of Medicine, and Mr. David J. LaFond, Marquette University School of Medicine, delegates from the Student American Medical Association, who presented greetings from their organization.

Presentation and Remarks of Rev. Alphonse M. Schwitalla, S.J.

Rev. Alphonse M. Schwitalla, S.J., of St. Louis, was presented by the Speaker, and addressed the House as follows:

Being a Jesuit priest precludes any possibility of my ever attending a conclave of the Cardinals for the election of a Pope, so my next ambition has been, before I die and make a report to the "Big Boss," at least to have once appeared before the House of Delegates of the American Medical Association.

The American Medical Association is composed of a group of sound thinkers, and in the work that I have done I have felt that whenever I have made a false step, it was always because I had done something that was contrary to what the American Medical Association has taught. Fortunately, I have had friends like Ed McCormick and Herman Weiskotten and Dr. Cutter and a few other people who have acted as intermediaries between you and me.

Just yesterday I was reading up on old Grecian medicine in connection with something else, and I was amazed to find that way before the Homeric days the Greek doctor was called a *Demiourgos,* that is, a worker for the people, and through all these centuries, gentlemen, you have been *Demiourgoi,* working for the people. It was only in the second stage of medicine that you became the *Iatrouantheis,* the physician-prophet, and only after the Trojan War did the doctor get the title by which he goes today in Greece, and that is the *Iatros,* the physician. Gentlemen, there is a significance in that stratification of responsibilities. From the earliest days, the foundation was laid for you to be helpers of the people. Gentlemen, I have a great, great admiration and love for the American Medical Association, and it has been one of the great honors of my life that the medal that I am wearing this morning has been granted to me through your generosity. It means so much to me, and thank God that I have had the opportunity of appearing at least once before this great House of Delegates. Thank you very much.

Report of the Secretary

Dr. George F. Lull, Secretary, presented his report (see The Journal, Nov. 7, 1953, pp. 926-928), which was referred to the Reference Committee on Reports of Board of Trustees and Secretary, with the exception of the item relating to a Resolution on Payment of Back Dues introduced at the New York meeting, which was referred to the Reference Committee on Amendments to the Constitution and Bylaws.

Report of Reference Committee on Reports of Board of Trustees and Secretary

Dr. John J. Masterson, Chairman, presented the following report, which was adopted:

Membership: It was very gratifying in reading the report of the Secretary, that the paid membership as of Aug. 31, 1953, was 117,063, an increase of 7,323 members over the corresponding period in 1952. This increase in membership is concrete evidence of the confidence of the profession in the policies of the Association and our endeavors in promoting and improving the health and well being of the American public. We are pleased to learn that plans are being made to expand the use of the I.B.M. system during 1954 in order that the membership cards may be sent at the time the dues are recorded. The installation of this system will avoid many complaints regarding delay in receiving membership cards and also in receipt of The Journal or one of the specialty journals by new members.

The Secretary makes reference to another problem, which is the variety of membership classifications in constituent associations, resulting in confusion as to the type of membership a physician may hold in the American Medical Association. The problem arises out of provisions in the constitutions and bylaws of the constituent associations, and for that reason cannot be easily or quickly solved. Another source of misunderstanding is the use of various terms to designate categories of membership. Your committee is pleased to note that the Secretary has undertaken a new survey of the constitutions and bylaws of constituent associations with respect to provision for exemption from payment of American Medical Association dues, and that further recommendations can be made at completion of the study.

Subscription and Circulation: The number of subscribers to The Journal was about the same as in 1952, although many members substituted one of the special publications in place of The Journal. All of the nine publications showed an increase in circulation.

Field Activity: Many invitations are received by the Secretary and Assistant Secretary to address meetings of state and county medical societies and other organizations which maintain cordial relations with the American Medical Association. These invitations are accepted whenever possible, notwithstanding that such attendance places an additional burden of work on their return to headquarters.

Directives of the House of Delegates: The Secretary has made disposition of resolutions adopted by the House of Delegates at the New York meeting. His report on the Resolution on Payment of Back Dues has been referred to the Reference Committee on Amendments to the Constitution and Bylaws.

Collier's Article: An article appeared in *Collier's* magazine for Oct. 30, 1953, entitled "Why Some Doctors Should Be in Jail." The Secretary wishes the record to show clearly that he never saw the article, the title, the illustrations, or the cover page before publication. Had it been submitted to him, he would have protested strongly.

In conclusion, your reference committee believes that the House of Delegates would be remiss at this time if it did not express its gratitude, appreciation, and thanks to our Secretary and Assistant Secretary and all the headquarters personnel in the office and mechanical departments for their continued loyal and faithful service in administration of the affairs of the Association.

Report of Reference Committee on Amendments to the Constitution and Bylaws

Dr. William L. Benedict, Chairman, presented the following report, which was adopted:

Your committee has considered that portion of the report of the Secretary on payment of back dues. This refers to a resolution presented to the House of Delegates in June, 1953, by Dr. George A. Earl of Minnesota concerning the payment of membership dues. This committee presents a substitute resolution as follows:

Resolved, That any active member of the American Medical Association who failed to pay dues for the year 1950, and who was suspended for such delinquency, may be reinstated during the first six months of 1954 by the payment of 1954 dues only. Should such an individual fail to pay his 1954 dues by July 1, 1954, he shall continue to be considered delinquent.

Your committee further recommends that the Bylaws of the American Medical Association be so amended as to implement this provision.

Report of Board of Trustees

Dr. Dwight H. Murray, Chairman, presented the report of the Board of Trustees (see THE JOURNAL, Oct. 31, 1953, pages 829-854, and Nov. 7, 1953, pages 928-940), which was referred to the Reference Committee on Reports of Board of Trustees and Secretary with the following exceptions:

To the Reference Committee on Legislation and Public Relations, Report of Committee on Legislation and Report of Assistant to General Manager, Department of Public Relations.

To the Reference Committee on Industrial Health, Report of Council on Industrial Health.

To the Reference Committee on Medical Military Affairs, Report of Council on National Emergency Medical Service.

To the Reference Committee on Insurance and Medical Service, Report of Council on Rural Health.

To the Reference Committee on Hygiene and Public Health, Report of Committee on Mental Health and Report of Bureau of Health Education.

To the Reference Committee on Sections and Section Work, Report of Bureau of Exhibits.

Report of Reference Committee on Reports of Board of Trustees and Secretary

Dr. John J. Masterson, Chairman, presented the following report, which was adopted:

Report on Matters Referred by House of Delegates: With respect to that section of the report which has to do with resolutions referred to the Board of Trustees, your committee finds that in each and every instance they have been studied by the Board of Trustees and referred to the proper Committee or Council or person for action, or have been implemented by the Board of Trustees in accordance with the recommendations of the House of Delegates.

The Journal, Specialty Journals, Library, Today's Health: THE JOURNAL is ever-enlarging and continuously expanding in the diversification of reading matter. Valuable and interesting new departments are constantly being added. THE JOURNAL continues to increase its effectiveness internationally by ever-increasing international circulation and the inclusion for American readers of increasing numbers of articles of scientific and general interest. Its publication figure has now reached 167,000 copies per week.

Special attention is being given by the Editor to improve the specialty journals. The program as laid out will, it is believed, markedly improve the editing policies. Also, greater efficiency in production will no doubt be realized by the efforts being made in the field of training personnel. Financial improvement is anticipated by improvement in sales policies. The specialty journals are constantly increasing in circulation, which in the opinion of your reference committee, is evidence of ever-increasing improvement.

The Library is mentioned in this report only to call your attention to its continuous growth; 4,065 volumes are now in the Library. Extensive, valuable files and indexes of THE JOURNAL, authors, specific subjects, book reviews, etc., have been arranged for efficiency and accessibility. The Library is in a position to render valuable service to the members of the profession.

The magazine *Today's Health* is, in the opinion of your committee, an exceedingly important and efficacious medium in the public relations and public education in health functions of the American Medical Association. Despite this importance, your committee believes that it cannot fulfill its purpose at the present time because of insufficient circulation. The total subscription to *Today's Health* at present is 260,000. Of this total, it is disappointing to learn that only 26,000 members of the profession subscribe to this magazine. An annual deficit results from this situation to the extent of $150,000, and it is a serious question whether this valuable medium can be continued. It is urgently requested that the members of the profession seriously consider supporting *Today's Health* by subscribing to it. Your committee is informed that if the number of physician subscriptions were raised to 100,000, the present deficit could be eliminated. Your committee also urgently recommends that efforts be made by component medical societies to increase subscriptions to *Today's Health.*

Report of Washington Office: In the opinion of your committee, this report requires no critical analysis. The service rendered by the Washington Office has been most valuable to the profession. To read its regular reports is to determine the many services it renders. The accomplishments of this office since its beginning must be known to each member of the House of Delegates. In the opinion of your committee, the initiation of this service in Washington has been one of the best investments of the profession. We are grateful to its Director, Dr. Frank E. Wilson, and declare our wholehearted approval of his efforts.

The effectiveness of the Washington office is dependent on hometown utilization of the information supplied by the Washington Office. Your committee recommends that the members of the House of Delegates make every effort to present the medical viewpoint on all legislative information supplied by the Washington Office to their representative members of the Congress of the United States.

Report of Committee on Medicolegal Problems: In the field of medicolegal problems, which has always been a too little understood facet of practice by our profession, much has been done to clarify and bring to the profession its importance. Particularly is this true in the prevention of malpractice actions. Considerable information has been made available to the profession regarding its rights, duties, and obligations. Dissemination of scientific knowledge on the subjects of preventable dangers of blood transfusions and the accurate diagnosis of acute alcoholism has been emphasized. In the field of forensic pathology, the subcommittee has cooperated with various legislative bodies in an effort to have established uniform state laws that would create a model medical examiner law. The importance of this requires no additional comment by your reference committee.

The interrelationship of the Committee on Medicolegal Problems and the Bureau of Legal Medicine and Legislation is a happy situation. This cooperation, it is hoped, will continue.

Report of Bureau of Legal Medicine and Legislation: The Bureau of Legal Medicine and Legislation, because of its long experience and accumulation of legal information, is in a position to, and does, render to the profession valuable services. The Bureau's cooperation with the Federation of State Medical Boards of the United States in an effort to improve and more nearly approach uniformity of the various medical practice acts is to be commended.

It is interesting to note in the report of the Bureau that in the state of Ohio the decision of the attorney general of Ohio leaves no doubt as to when a hospital is illegally practicing medicine. This opinion is parallel to the position taken by the American Medical Association and many of its component societies.

Continued study is being made by the Bureau, in conjunction with the Council on Medical Service, into the subject of medical liability insurance rates charged by the insurance carrier of malpractice insurance. This study, although not completed, is evidently being continued with progress. However, because of the ever-increasing premiums charged for malpractice insurance protection and, more important, the increasing reluctance of insurance carriers to continue the availability of this protection, your committee recommends that the Board of Trustees make every effort to improve this deteriorating situation as soon as possible.

Report of Council on Pharmacy and Chemistry: The evaluation of new drugs and the drug acceptance program of this council have been a most practical and useful project provided by the American Medical Association for the individual practitioner of medicine. Likewise, its publications and reports are of great clinical value. Particularly to be commended is the report of the Committee on Research, reporting the cooperative investigations with various pharmaceutical manufacturers. The grants-in-aid through the Committee on Research is a most remarkable example of the altruistic aims of modern medicine as expressed through its official organization.

Report of Committee on Cosmetics: The report of the Committee on Cosmetics demonstrates again the opportunity for the medical profession, through its agencies, to develop close cooperation with better business bureaus and other organizations and agencies for the public good.

Report of American Medical Association Laboratories: The Chemical Section of the Laboratories establishes standards for remedial products, makes available to the profession information relative to New and Nonofficial Remedies, and cooperates in an advisory capacity with other agencies of the Association. The special problem relative to the study of cigarettes has aroused public interest, and further improvement of analytical methods and techniques is to be encouraged.

The Microbiologic Section is a department that serves to study bacteriologic problems relative to medicinal remedies and also offers a very practical future for cooperation with certain food industries.

Report of Council on Physical Medicine and Rehabilitation: This council has continued its investigations of appliances and methods for aiding those handicapped by loss of important body functions and has actively disseminated information to the medical profession and to the public on the value and use of such aids. It has continued its interest in the education of physical and occupational therapists.

Report of Council on Foods and Nutrition: This council has concerned itself with the evaluation of certain foods prepared for use in low sodium and weight-reducing diets, the proper investigation of which will lead to more accurate and dependable labeling and a wider knowledge of the variety and types of foods available for such therapeutic use. The recognition of the valuable work of Dr. William H. Sebrell by the Council in recommending him for the Joseph Goldberger Award is a tribute to the work done in the field of clinical nutrition. The pioneering work of the Council on evaluating the use of vitamin and nutrient enriched foods serves as a further reminder of the outstanding and enviable position of this Council in its service to the public. Death and illness have necessitated changes on this council and further illustrate the toll of hard work and devoted service that has so often characterized membership on councils of the American Medical Association.

Report of Bureau of Investigation: The never-ending exposure of quacks, cultists, patent medicines, and similar fads, agents, and appliances has been carried on in increasing degree, and probably more effectively owing to the use of radio, television, and other means of public information dissemination.

Report of Bureau of Medical Economic Research: This has proved to be one of the most valuable departments of the American Medical Association. It has done more to give the public and the profession accurate and honest factual data on medical economic problems and by so doing has successfully refuted much of the socialistic philosophy which has been rampant in the United States in recent years. By so doing it has accomplished a great deal toward the preservation of freedom in our country. Because of the accuracy of its findings and conclusions, it has gained the confidence of many outside the medical profession. Its director has proved himself to be a competent, honest economist, and for his leadership and the work of this bureau we are sincerely appreciative and most grateful.

Report of Bureau of Industrial and Personnel Relations: This bureau has established a pattern for the proper regulation of its employee relationships to the Association. It has done a most creditable job in fostering the type of program for its employees that leads to harmonious, cooperative effort so important to an organization dependent on a large number of persons for efficient operation.

The report of the Board of Trustees, covering 135 pages in the Handbook of the House of Delegates, is an indication of the great amount of work required of the Board. A perusal of the report is eloquent testimony to the loyal and selfless devotion of the members of the Board of Trustees to the duties of their office. They spend many days and long hours in working on the affairs of the Association. Your committee does not think that any other organization has a more faithful Board of Trustees. We owe them our deep gratitude, sincere thanks, and appreciation.

In conclusion, may we convey to the other members of our committee our sincere thanks for their generous, gracious cooperation and assistance in the preparation of this report.

Report of Reference Committee on Legislation and Public Relations

Dr. Bruce Underwood, Chairman, submitted the following report, which was adopted:

REPORT OF COMMITTEE ON LEGISLATION

Resolution on Social Security and Report of Committee on Legislation on Jenkins-Keogh Bills (H. R. 10 and H. R. 11): Your committee carefully considered resolution No. 10 on the subject of social security, introduced by Dr. Willard A. Wright, North Dakota, and the Report of the Committee on Legislation of the Board of Trustees on the Jenkins-Keogh bills. The purpose of these bills is to eliminate the discrimination and inequities which exist under present tax laws by extending the tax deferment privilege to the country's 10 million self-employed and also to millions of employees who are not covered by pension plans. The purpose of the resolution is to reaffirm our support of the voluntary pension program provided in the Jenkins-Keogh bills and to reaffirm our strong opposition to the extension of compulsory coverage of physicians and other self-employed persons under Title II of the Social Security Act. Your committee recommends the adoption of the resolution.

Legislation to Amend the Constitution of the United States Relative to the Making of Treaties and Executive Agreements (S. J. Res. 1): Your committee endorses the efforts that have been made to secure a favorable action concerning this legislation. We are glad to note that it has been reported favorably by the Senate Judiciary Committee and that it is now awaiting action by the Senate. Your committee urges continued efforts to secure favorable action on the resolution.

Legislation Concerning Transfer of Functions, Responsibilities, and Duties of Department of the Interior and Bureau of Indian Affairs Relating to Health and Hospitalization of Indians to United States Public Health Service (H. R. 307 and H. R. 1057): Your committee endorses the action taken to date with respect to this legislation and urges continued efforts to secure favorable action.

Legislation to Authorize United States Public Health Service to Admit to Its Hospitals Persons Committed by State Courts Who Are Beneficaries of the Service or Narcotic Addicts (H. R. 3204): Your committee endorses the action of the Committee on Legislation and the Board of Trustees in recommending the enactment of this legislation.

Legislation Concerning Deduction of Medical and Dental Expenses for Income Tax Purposes (H. R. 3375): Your committee endorses the action of the Committee on Legislati and the Board of Trustees in actively approving the princi involved in this legislation. It urges that efforts be continued to secure a greater measure of relief for those individuals who have suffered from the financial burden resulting from the expense of a serious long-term illness by reducing or removing the limitation on the deduction of medical and dental expenses for income tax purposes which are imposed by existing law.

Legislation Concerning the "Doctor-Draft" Law (H. R. 4495): The "Doctor-Draft" law was extended for two years and will now expire on June 30, 1955. The Committee on Legislation and the Board of Trustees recommended that the "Doctor-Draft" law be extended for only one year, but this recommendation was not followed, and on June 29, 1953, the legislation became Public Law 84 (83rd Congress). Your committee endorses the vigorous actions taken by the Committee on Legislation and the Board of Trustees to date. Your committee feels strongly, however, that there should be no further extension of the "Doctor-Draft" law. It feels that the legislation is discriminatory and urges the Committee on Legislation and the Board of Trustees to oppose actively any further extension of the "Doctor-Draft" law.

Legislation Concerning Reorganization of Department of Defense (Reorganization Plan No. 6): Your committee considered this legislation and noted that it became effective on June 30, 1953. It noted that the position of Assistant Secretary of Defense (Health and Medical) had been filled by a Doctor of Medicine, Dr. Melvin A. Casberg, even though the legislation did not specifically require that a Doctor of Medicine be appointed. Your committee hopes that in the future the position will continue to be filled by a Doctor of Medicine.

Regional Legislative Conferences: Your committee feels that the regional legislative conferences were of value and that they should be continued. It feels it is important to have direct personal contact with members of state and local medical societies in order to know their opinions in regard to federal legislation.

Report of Committee on Legislation in General: Your committee noted that during the year reported, the Committee on Legislation held six meetings, analyzed 259 legislative proposals and recommended policy positions on 210 of these measures to the Board of Trustees. We commend the Committee on Legislation for its fine work. While most of its report was reported satisfactorily, your committee wishes to recommend that in the future all items include a statement concerning (1) the present status of the legislation and (2) the nature of testimony given which would clearly indicate the position of the Association. We feel this information should be given for all items of legislation, so that the entire membership of the House of Delegates may be fully informed.

Report of Assistant to General Manager—Department of Public Relations

Public Relations Program for 1953: Your committee endorses the program which has been adopted and the objectives listed. It endorses efforts to reach medical students, interns, and residents and feels these efforts should be continued and expanded. It commends the Department of Public Relations for the fine work it is doing with a staff of 20 employees.

Advisory Committee: Your committee noted that the Advisory Committee to the Director of the Department of Public Relations is concerned only with operational procedures and that all policy decisions are made by the House of Delegates and by the Board of Trustees. It noted that the Assistant Secretary of the Association, and frequently a member of the Board of Trustees sits in on the meeting of the Advisory Committee, and that all recommendations of the committee that involve policy are referred to the Secretary and General Manager, who transmits them to the Board of Trustees for action.

Press Relations: Your committee spent much time in considering this subject and feels it is of the utmost importance to cooperate with the members of the press, radio, and television. We noted that cooperation paid great benefits in mutual trust and understanding and that many difficulties were solved in this manner. We noted that there were 185 reporters and writers at the annual meeting in New York in 1953 as compared to 110 at the 1952 annual meeting in Chicago. W noted the complimentary remarks which have been made cor cerning the press relations of the American Medical Ass ciation. Your committee urges continued cooperation with th press at national, state, and local levels in order to secure greater mutual trust and understanding of the many problen involved.

Public Relations Conferences: Your committee endorses tl holding of public relations conferences and recommends the continuance. It urges, however, a greater participation doctors of medicine in these conferences.

Daily Bulletin: Your committee noted that 8,000 copies the Daily Bulletin were distributed at the annual meeting New York in 1953 and that 3,000 copies will be distribut at the St. Louis Clinical Meeting this year. It notes the in provements which have been made in the bulletin and the i creased information given concerning the work of the Hou of Delegates. Your committee commends these efforts, a expresses appreciation for them, and recommends the co tinuance of the Daily Bulletin.

Radio and Television Shows: Your committee endorses t fine work that is being done with the promotion of radio a television shows and believes this work is of great value a should be continued and expanded.

Literature: Your committee discussed this subject at leng and feels that much good work is being done in the prepa tion, promotion, and distribution of literature. It notes, ho ever, that the Department of Public Relations does not ha any adequate method of determining the value and effecti ness of its work. Your committee believes it is of value a is effective, but recommends that the Board of Trustees esta lish some procedure to measure its effectiveness. It is su gested that the field service might be used to some extent this connection.

Other Services: Your committee feels that the P. R. Doct the press service which was established for the President, t Presidential Inaugural Ceremony in 1953, the field service, a the guided tours of the Chicago headquarter's office are wort of special praise and commendation. Your committee co mends the Public Relations Department for its long-ran program in telling the positive side of American medicin program with its myriad services and activities.

Report of Reference Committee on Industrial Health

Dr. Frank A. MacDonald, Chairman, submitted the fo lowing report, which was adopted:

Your Reference Committee on Industrial Health has ca fully studied the report of the Council on Industrial Heal and was impressed with the extensive scope of the activiti of this council. It was also impressed with the large numb of pilot studies being undertaken by this council in the fiel of disease and accident prevention, and in health educatio Your committee agrees with the scope and objectives of th council and urges that it continue with its studies in industri and community health councils, in health and welfare pla and in the professional aspects of sickness absenteeism a workmen's compensation.

Report of Reference Committee on Medical Military Affairs

Dr. William A. Hyland, Chairman, presented the followi report, which was adopted:

With regard to the report of the Council on Nation Emergency Medical Service in the report of the Board Trustees, your committee feels like many of the delegates wh appeared before it complimenting most highly the though detail, and mode of expression of the subjects. As a commi tee we also commend the Board and the Council for th excellent treatise.

Report of Reference Committee on Insurance and Medical Service

Dr. John M. Porter, Chairman, submitted the followin report, which was adopted:

The report of the Council on Rural Health speaks for i self and should be read by all of us who practice outsid the metropolitan or industrial centers. If, because of isolation and sometimes apparently radical thinking, the farmer seems to require more than his share of attention or even subsidization, certainly we must agree that no better friend of medicine or more fundamentally necessary individual exists. In the opinion of your reference committee, the work of the Council on Rural Health with its emphasis on education and its admirable record of cooperation with farm groups should be continued and its efforts commended.

Report of Reference Committee on Hygiene and Public Health

Dr. Thurman B. Givan, Chairman, presented the following report, which was adopted:

Report of the Committee on Mental Health: The reference committee commends the Committee on Mental Health (because it is a comparatively new committee, having its first meeting in March, 1952) for the elaborate program it has set out to accomplish. If it can accomplish the raising of the standards of care and treatment of patients in mental institutions, it will have done yeoman work. Your committee recommends that the appointment of a new subcommittee dealing with alcoholism, when a proper survey has been completed, should be effected as soon as possible. Your committee recommends approval of the report as published.

Report of Bureau of Health Education: Your committee has reviewed the report of the Bureau of Health Education and has discussed the subject matter very extensively with Dr. W. W. Bauer. We are tremendously impressed with the vast scope of the work of health education and recommend its continuation and expansion to meet this great need of the American public under Dr. Bauer's direct supervision. We especially commend the cooperation between the American Medical Association and other health organizations, including Secretary Oveta Culp Hobby's Department of Health, Education and Public Welfare, and also the National Committee for Traffic Safety, National Citizens Committee for Educational Television, National Committee on Boys and Girls Club Work, and many other assignments.

Report of Reference Committee on Sections and Section Work

Dr. Jesse D. Hamer, Chairman, submitted the following report, which was adopted:

A review of the report of the Bureau of Exhibits indicates the vast scope of work carried out by this bureau. Not only did it provide many physical exhibits of interest to the general practitioner at the Clinical Meeting in Denver last December, and 260 exhibits at the Annual Meeting in New York last June, with material of high quality and great teaching value to members of the 20 sections of the Scientific Assembly, but also, with the Committee on Medical Motion Pictures, it arranged for the presentation of many films, which were shown to large groups in all instances. Your committee was pleased to note that there are now 50 subjects covered by prepared exhibits, which depict the activities, aims, and purposes of the various councils and bureaus of the Association. These fall into two general groups: (1) medical exhibits for medical societies and other scientific groups and (2) health exhibits for fairs, expositions, and other public gatherings. These exhibits have increased by 12 during the past year.

It is apparent in the report of this bureau that increasing interest continues in the field of motion pictures so that the film library, the film reviews, and films for television assembled by the Committee on Medical Motion Pictures have shown a substantial increase in numbers and more widespread usefulness. Your committee would call to the attention of the House that the secretary of the Committee on Medical Motion Pictures visited Mexico and the First World Conference on Medical Education in London during the past year, and addressed a number of scientific assemblies on the subject "The Effectiveness and Use of Motion Pictures in Medical Teaching."

Your committee wishes to commend the members of the Bureau of Exhibits and of the Committee on Medical Motion Pictures for their excellent work and accomplishments during the past year, and to recommend to the House that the combined report be accepted.

Supplementary Reports of Board of Trustees

Dr. Dwight H. Murray, Chairman, presented the following supplementary reports of the Board of Trustees.

The Speaker referred items A, B, C, K, and N to the Reference Committee on Reports of Board of Trustees and Secretary; items D and G to the Reference Committee on Hygiene and Public Health; items E, F, H, I, and J to the Reference Committee on Medical Military Affairs; and items L and M to the Reference Committee on Medical Education and Hospitals.

A. 1956 ANNUAL MEETING

In accordance with the authority granted by the House of Delegates at its meeting in June, 1953, the Board of Trustees investigated the accommodations in the several cities from which invitations emanated and has selected Chicago, during the week of June 11 to 15, as the place for the 1956 Annual Meeting of the Association.

It is becoming increasingly difficult to select a place for the Annual Meeting which meets the requirements of the Association and at the same time offers a date most appropriate for the needs of the profession. It is recommended, therefore, that the place of the Annual Meeting be selected five years in advance, rather than three, as it is at the present time.

B. MEDICAL PROGRESS DAY

At the June, 1953, meeting of the House of Delegates a resolution was introduced by Dr. R. J. Azzari of New York, recommending that a Medical Progress Day be proclaimed. Following receipt of a report from the Department of Public Relations and its Advisory Committee, the Board of Trustees recommends that no action be taken on the resolution. It is the feeling of the Board that the institution of a Medical Progress Day on a nationwide basis cannot be accomplished at this time. It is suggested that if the constituent state and component county societies wish to promote such a day locally they do so whenever possible.

C. RESOLUTION ON CRIPPLED CHILDREN'S PROGRAMS

The resolution on Crippled Children's Programs introduced into the House of Delegates in June, 1953, by Dr. Cleon A. Nafe of Indiana, was referred to the Washington Office of the Association. The resolution was brought to the attention of the Secretary of the Department of Health, Education, and Welfare with the request that the section of the regulations cited in the resolution be eliminated. The reply received indicated that the request of the Association would be given careful consideration in the department's exploration of the questions raised by the resolution.

K. WORLD MEDICAL ASSOCIATION

The World Medical Association held its Seventh General Assembly in The Hague, Holland, Sept. 1 to 6, 1953. The delegates from the American Medical Association were Drs. Gunnar Gundersen and Edwin S. Hamilton. The alternate delegates were Drs. F. J. L. Blasingame and Dwight H. Murray. There were also 71 members of the United States committee in attendance as observers besides the American doctors who are officials of the organization. The assembly was the best attended of any. One of the important decisions was to endeavor to coordinate and take the leadership in a world-wide movement to improve the standards of industrial and occupational medicine.

Dr. Austin Smith was named by the council to fill the vacancy in the council caused by the death of Dr. Elmer L. Henderson. This was later confirmed by the assembly. Dr. Gunnar Gundersen was elected to the council to replace Dr. R. L. Sensenich. Dr. Louis H. Bauer remains as secretary general. Considerable discussion took place about the bulletin, and the assembly directed the council to appoint an advisory editorial board composed of three members plus an executive editor, also to be appointed by the council, and the secretary general as business manager. The council appointed the following advisory board: Dr. Paul Cibrie, secretary of the French Medical Association; Dr. Hugh Clegg, editor, *British Medical*

Journal; Dr. Lorenzo Garcia-Tornel, secretary of the Spanish Medical Association, Dr. Austin Smith, editor of THE JOURNAL of the American Medical Association, was designated as executive editor, replacing the former editor. It is contemplated that there will be considerable change in format and the publication will be increased in frequency.

Prior to the General Assembly the First World Conference on Medical Education was held in London. This was sponsored by the World Medical Association. It was attended by 617 registered participants from 62 countries and representing 127 universities and medical schools. Besides obtaining the viewpoints of medical education, medical associations, and government bodies, it endeavored to obtain the viewpoint of the practicing physician on medical education. There was a large delegation from the United States attending the Conference. Dr. Victor Johnson was one of the vice presidents of the conference; Drs. Herman G. Weiskotten and Donald Anderson of the Council on Medical Education and Hospitals, and Mr. Ralph Creer of the headquarters office presented papers, as did several other American doctors.

An attempt is being made by various groups to draft a code of international medical law. None of these groups has any competence in the matter. The World Health Organization was asked by the Belgian government to take action in the matter. The health assembly instructed its director general to undertake a study with the assistance of appropriate organizations and persons and to report back. W. H. O. invited the W. M. A. to take part in this study and stated that W. H. O.'s part seemed to be one of coordination. The stand of the World Medical Association is that any code of international medical law governing the actions of doctors in peace or war must necessarily be based on medical ethics; further, that the medical profession is the only one competent to draw up such a code of ethics; that jurists and governments and governmental agencies should have no part in such a procedure except, perhaps, to give the code legal status after adoption. The World Medical Association has already adopted an International Code of Medical Ethics which has received the approval of this House of Delegates. It is now drafting an additional chapter on the Duties of the Doctor to Society. The World Medical Association has given notice to all concerned that the medical profession will never accept a code of ethics which has been drafted by jurists or governmental agencies.

The Board of Trustees has continued its support of the World Medical Association, as it feels it to be a very necessary organization in that it is the only organization on an international level which can speak for the practicing profession. All other international organizations that deal with socioeconomic or educational problems are governmental. The World Medical Association needs financial support. While the dues of member associations are being doubled and supporting committees are developing in other countries, nevertheless for some time to come the majority of the financial support must come from the United States. The United States Committee, Inc., has tripled its membership since a year ago, but it must triple its present membership in order to be self-sustaining in the activities it has agreed to sponsor. The Board of Trustees hopes that the members of the American Medical Association will lend their support to the World Medical Association by joining the United States Committee.

N. APPRECIATION

It is my privilege now to extend my thanks and appreciation to the members of the Board of Trustees for their very intelligent work and for the contributions they are making to the progress of medicine. The long hours and many days they spend in working on the affairs of the Association are done willingly and graciously without a murmur of complaint. The President and President-Elect, by their numerous trips across country to visit the state and county associations, are deserving of great praise and commendation. It seems that more and more these two offices have become full-time jobs for these men. Also may I express appreciation to the headquarters staff who are capable, thoughtful, and diligent in their services and w[illegible] ready at all times to assist the members of the prof[illegible]

Report of Reference Committee on Reports of Board of Trustees and Secretary

Dr. John J. Masterson, Chairman, presented the following report, which was adopted:

1956 Annual Meeting: Your reference committee approves the selection of Chicago for the 1956 Annual Meeting, during the week of June 11 to 15. It also approves the recommendation of the Board of Trustees that the place of the Annual Meeting be selected five years in advance, rather than three, as it is at the present time.

Medical Progress Day: Your reference committee concurs in the recommendation that no action be taken on this resolution, as it is the feeling of the Board of Trustees that the institution of a Medical Progress Day on a nationwide basis cannot be accomplished at this time. The Board suggests, however, that, if the constituent state and county societies wish to promote such a day locally, they do so whenever possible.

Resolution on Crippled Children's Programs: The resolution on this subject was introduced at the June, 1953, meeting of the House of Delegates. It was brought to the attention of the Secretary of the Department of Health, Education, and Welfare. The reply received indicated that the request of the Association would be given careful consideration in the department's exploration of the question raised by the resolution. This report is for your information only, and carries no recommendation.

World Medical Association: The first page of this supplementary report is mostly informative of the Seventh General Assembly of the World Medical Association in The Hague, Holland, Sept. 1 to 6, 1953. The delegates from the American Medical Association were Drs. Gunnar Gundersen and Edwin S. Hamilton. The assembly was the best attended meeting of the World Medical Association.

Prior to this meeting, the First World Conference on Medical Education was held in London. The conference was sponsored by the World Medical Association and was well attended. A large delegation from the United States was present.

> An attempt is being made by various groups to draft a code of international medical law. None of these groups has any competence in the matter. The World Health Organization was asked by the Belgian government to take action in the matter. The Health Assembly instructed its Director General to undertake a study with the assistance of appropriate organizations and persons and to report back. W.H.O. invited the W.M.A. to take part in this study and stated that W.H.O.'s part seemed to be one of coordination.
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> The stand of the World Medical Association is that any code of international medical law governing the actions of doctors in peace or war must necessarily be based on medical ethics; further, that the medical profession is the only one competent to draw up such a code of ethics; that jurists and governments and governmental agencies should have no part in such a procedure except, perhaps, to give the code legal status after adoption.
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> The World Medical Association has already adopted an International Code of Medical Ethics which has received the approval of this House of Delegates. It is now drafting an additional chapter on the Duties of the Doctor to Society. The World Medical Association has given notice to all concerned that the medical profession will never accept a code of ethics which has been drafted by jurists or governmental agencies.

The Board of Trustees has continued its support of the World Medical Association. It is the only organization on an international level which can speak for the practicing physician, and it is hoped that the members of our Association will lend their support to the World Medical Association by joining the U. S. Committee.

Appreciation: Your committee fully concurs with Dr. Dwight H. Murray, Chairman of the Board of Trustees, in expressing his appreciation to the other members of the Board of Trustees, the President and President-Elect, and members of the headquarters staff for their valuable contribution to the Association. Dr. Murray's modest effacement of his own contribution is a merited example of fine leadership.

D. RESOLUTION ON AMENDMENT OF FEDERAL NARCOTIC ACT TO PROVIDE FOR DISPENSING OF CODEINE MIXTURES AND COMPOUNDS ON ORAL PRESCRIPTIONS

Acting on the recommendation of the Reference Committee on Hygiene and Public Health, adopted by the House of Delegates in June, 1953, the Board of Trustees referred to the Council on Pharmacy and Chemistry the resolution introduced by Dr. Raymond M. McKeown of Oregon.

Communications were sent to the Bureau of Narcotics and several organizations interested in this field asking for an expression of opinion as to the advisability of a change in the Federal Narcotic Law at this time to provide for the dispensing of codeine mixtures and compounds on oral prescriptions. In the reply received from the Bureau of Narcotics it was stated, and this was concurred in by the other groups, that the bureau "would favor an amendment to permit the filling of oral prescriptions for compounds of certain narcotic drugs that, as compounds, presented comparatively little or no potential for creating or gratifying drug addiction" and would apparently support "an amendment to authorize this Bureau (after considering any views on the subject expressed by the Surgeon General, U. S. Public Health Service; the Commissioner, U. S. Food and Drug Administration; State Narcotic Control Officers; and the respective secretaries of a national association representing (a) narcotic drug manufacturers, (b) physicians, and (c) pharmacists) to establish by regulation a list of the drugs and compounds found to possess relatively little or no addiction liability. The oral prescription exception is intended to be applicable to substances on this list." The bureau is in the process of preparing such a text embodying the above-stated principle. It was further stated that the extension of the oral prescription classification to mixtures and compounds of the potentially dangerous opium derivatives will inevitably be subverted by drug peddlers and drug addicts who will take advantage of the procedure to obtain, by deception, quantities of the addicting compound.

In view of the above, the Board of Trustees recommends that the Association do not seek a change in the Federal Narcotic Law at this time.

G. RESOLUTION ON ADVERTISING OF MEDICAL PRODUCTS

In accordance with the directive of the House of Delegates in June, 1953, the Board of Trustees considered the Resolution on Advertising of Medical Products, introduced by Dr. W. C. Stover of Indiana, and makes the following report in this regard:

For almost 50 years the Council of Pharmacy and Chemistry has served as a standing committee of the Board of Trustees of the American Medical Association and in this capacity has exercised supervisory influence over the statements made in the advertising appearing in the publications of the American Medical Association. In fact, the principles which govern the acceptance of products for advertising in American Medical Association publications read in part:

> Medicinal preparations, to be admissible for advertising, must stand accepted by the Council on Pharmacy and Chemistry, except when such products may be determined by the Council as not coming within its purview.
>
> Apparatus or physical appliances used for therapeutic purposes must be accepted by the Council on Physical Medicine and Rehabilitation before being advertised in A. M. A. publications, except when such products may be determined by the Council as not coming within its purview.
>
> Food products for which health claims or special dietetic qualities are featured must be accepted by the Council on Foods and Nutrition to be eligible for advertising except when such products may be determined by the Council as not coming within its purview.
>
> Cosmetic preparations and soaps must stand accepted by the A. M. A. Committee on Cosmetics to be admissible for advertising.

Other principles read in part:

> Advertisements will not be accepted which, either by intent or inference, would result in deceiving, defrauding, or misleading the reader.
>
> Sweeping superlatives or unfair comparisons should be avoided. Any claims for superiority must be supported by sound evidence. Extravagantly worded copy is subject either to revision or to rejection.
>
> Quotations or excerpts from published papers are not accepted if by themselves they distort the true meaning intended by the authors, or are otherwise misleading.

All advertising concerning any products which fall within the purview of any standing committee of the Board of Trustees is referred to the office of the committee for comment and criticism before it is published. Comment is provided by the office on the basis of general opinions previously expressed by the committee and on the statements contained in advertising material already declared acceptable by the committee or council. Only then is the advertising, modified or otherwise, included in THE JOURNAL or any of the American Medical Association publications. It is not possible for the Editorial Department or the Advertising Department to pass on all advertising copy, and therefore the value of the Council's work in this respect is obvious.

Each council consists of members who are nationally or internationally known and who are considered experts in their fields. Collectively they are able to pass judgment on problems that might be subject to considerable difference of opinion if left to individual consideration. There are times when articles appear in a medical journal which would appear to be at variance with claims declared acceptable by the council; however, the councils give consideration to all published papers and to all of the evidence and for this reason are considered as giving generally acceptable advice. If anything, the councils have been accused of being too conservative. However, when one is dealing with potent drugs a conservative attitude is justified.

The Board of Trustees believes that the supervision exercised over the advertising in American Medical Association publications is in keeping with today's needs. It believes that the members of these councils provide sound and supportable opinions, and that such expert guidance offers as dependable assurance concerning advertising claims within the American Medical Association publications as is possible to achieve. At this time, no other effective system whereby advertising principles can be applied can be envisaged.

Report of Reference Committee on Hygiene and Public Health

Dr. Thurman B. Givan, Chairman, submitted the following report, which was adopted:

Resolution on Amendment of Federal Narcotic Act to Provide for Dispensing of Codeine Mixtures and Compounds on Oral Prescriptions: Your committee approves the recommendation of the Board of Trustees that the Association does not seek a change in the Federal Narcotic Law at this time.

Supplementary Report of the Board of Trustees on Advertising of Medical Products, and Resolution on Ethical Advertising: The supplementary report of the Board of Trustees on the Resolution dealing with advertising of medical products was carefully scrutinized and was discussed by several members, including Dr. Austin Smith, Editor of THE JOURNAL, and Dr. Robert Stormont, Secretary of the Council on Pharmacy and Chemistry. Your committee agree in principle with the resolution presented at this session by the West Virginia State Medical Association on the subject of ethical advertising but as a result of the discussion suggests the following recommendation: That the Council on Pharmacy and Chemistry be encouraged to take every opportunity to afford physicians early and complete information available on all drugs as they are produced, detailed or advertised, even before Council acceptance.

E. RESOLUTION ON "DOCTOR-DRAFT" LAW

The resolution on the "Doctor-Draft" law, introduced in June, 1953, by Dr. A. H. Aaron of New York, proposing that the recommendations of state and local medical advisory committees to the Selective Service System be made mandatory rather than advisory, was considered by the Council on National Emergency Medical Service as directed by the House on recommendation of the Reference Committee on Legislation and Public Relations. It was the decision of the Council that its previous position be reaffirmed and that the proposal be not endorsed, and in this recommendation the Board of Trustees concurs. Experience has demonstrated that in the great majority of states the recommendations of the medical advisory committees are accepted by state and local Selective Service Boards. In addition, implementation of Dr. Aaron's proposal would require an amendment to the "Doctor-Draft" law. It is the opinion of the Board that such an amendment is neither necessary nor feasible at this time.

F. MEDICAL POLICIES IN DISASTER

In 1938, following consideration of a request from the American National Red Cross for approval of medical policies in disaster, the House of Delegates agreed that the primary responsibility for the care of the sick and injured in disaster rests with the local physicians and dentists and that the functions of the Red Cross should be that of cooperation with local physicians and dentists by assisting in organizing and directing medical relief work and by providing the needed facilities that are lacking for the emergency. With regard to detailed arrangements for emergency work it was decided that these could be made by mutual agreement between the Red Cross and local medical organizations so that a standard might be set in advance.

Believing that this policy should be reviewed in the light of the establishment of the Federal Civil Defense Administration, the Board of Trustees referred the matter to the Council on National Emergency Medical Service for study and report. The Council initiated correspondence with the two groups in order to obtain the present policies of the two agencies and to determine any overlapping of responsibilities which may exist.

It is the recommendation of the Board of Trustees that the House of Delegates adopt a position in agreement with the statement of the American National Red Cross that the primary responsibility for the care of the sick and injured in disaster rests with the public health authority and local medical and allied professional organizations. It is further recommended that the function of the Red Cross should be one of cooperation with local physicians and dentists and civil defense agencies. The Red Cross should assist in organizing emergency medical relief work and provide the facilities that may be lacking.

In general, the Board recommends the approval of the principles and practices outlined in current disaster policies of the Red Cross for the handling of the medical features of disaster relief. In view of the creation of federal, state, and local civil defense agencies, the development of uniform over-all plans is now feasible for national disaster. Detailed arrangements for possible emergencies could be made through agreements between the Red Cross, local medical organizations, and civil defense agencies so that a feasible program might be established in advance.

H. Universal Military Training Program

On Aug. 28, 1953, a statement prepared by the Council on National Emergency Medical Service and approved by the Board of Trustees was submitted to the National Security Training Commission. It is being presented to the House of Delegates at this time with the recommendation that the position recommended by the Association concerning the medical implications of a universal military training program may be affirmed. Affirmation of this statement does not in any way imply approval or disapproval of the establishment of a universal military training program.

STATEMENT OF THE AMERICAN MEDICAL ASSOCIATION TO THE NATIONAL SECURITY TRAINING COMMISSION AUG. 28, 1953

In presenting this statement, it is the purpose of the American Medical Association to make certain suggestions relative to the medical aspects of universal military training rather than to comment on whether such a program should be adopted. If the Congress, in its discretion, determines that the program is necessary, the medical profession is ready to cooperate in its implementation. We believe that we can make a contribution at this time in connection with the preliminary planning for such a program, inasmuch as the various councils and departments of the Association have been studying for some time the factors involved in the most effective utilization of medical manpower in time of national emergency and in connection with universal military training.

Last year, representatives of the American Medical Association appeared twice before the National Security Training Commission and also testified before the Armed Services Committee of the Senate and the House of Representatives. The initial report of the commission, submitted to the Congress, covered certain of the Association's suggestions; however, others were not discussed. In our appearances before congressional committees there was a tendency to discuss many of our proposals in conjunction with legislation pending at that time designed to revise the Armed Forces Reserve Program. Although Congress did not adopt the commission's recommendations, the Armed Forces Reserve Act of 1952 was enacted on July 9, 1952. Inasmuch as the act does not cover the medical aspects of universal military training as discussed in our previous statements, it is apparent that if they are to be effected, they must be included in legislation which the commission may suggest for congressional consideration.

It is the belief of the Association that the following five cardinal elements essential to the health and medical care of our nation should be considered by the commission:

(1) *The Continuation of Pre-Professional and Professional Education for Qualified Students:* It has always been the firm belief of the Association that should a universal military training program be adopted, it is imperative that safeguards be included to prevent any disruption in the education of an adequate force of professional personnel. In order to accomplish the basic underlying purpose of Public Law 51, 82d Congress i. e., to provide an adequate force of well-trained reserves, i is essential that the education of specialists be allowed to proceed without any impairment.

In its report to the Congress last year, the commission strongly recommended against split periods of training and the deferment of professional students from the six month training period. On page 28 of the report, the commission does, however, discuss the holding in abeyance of the reserve status "of a number of medical, dental and scientific students until the completion of their professional study." Inasmuch as this was one of the recommendations of the Association, we were pleased to see its favorable acceptance by the commission. However, the proposal was suggested by the commission for study only and was not included in the draft legislation which accompanied the report. With the rejection of split training periods and the deferment of professional students, this would appear to be the one remaining mechanism for insuring the uninterrupted flow of trained reserves. Therefore, the Association believes that it is imperative that this proposal be stressed by the commission in its new report and in its appearance before the congressional committees considering this legislation.

In this connection, two further points should be considered The commission's report on page 28 also notes that: "Under such an arrangement, the Reserve obligation of seven and one half years would not begin to run until *graduation from* medical, dental or scientific school." (emphasis added). It is believed that this recommendation should be changed to refer to completion of professional education rather than graduation from medical school. Such a revision would encompass the completion of internship and in some instances residency training Such an amendment would appear to be in line with the thinking of the commission, in view of the following statement which appears in the same paragraph as the above quoted statement: "It would also provide the Armed Forces with reservists who were qualified doctors, dentists and technicians, instead of mere apprentices in these fields."

In the implementation of this recommendation, it is essential that no advantage over civilian hospitals accrue to Armed Forces hospitals by allowing internship and residency service in such installations to count against a person's total reserve obligation. If this were permitted, the obtaining of interns and residents by civilian hospitals would be made increasing difficult.

The American Medical Association sincerely believes that a person eligible for induction into the National Security Training Corps, whose aptitude or previous accomplishments indicate that he can best contribute to the nation as a trained professional man, should be placed in a category that will permit him to continue his education, and that such a person be so classified before or at the time he reaches the age of induction. It is also believed that the selection of students and the control of educational programs should remain in the hands of the individual colleges and universities.

(2) *The Performance of Preinduction, Induction, and Periodic Reserve Physical Examinations:* Neither Public Law 51, 82d Congress, nor the initial report of the commission specifies who will perform the induction and preinduction examinations for National Security Training Corps inductees, or the periodic physical examinations, while they are members of the reserve. If any attempt is made to perform these examinations by using full-time medical personnel of the armed forces, it will be necessary to call into service a much larger number of phy-

sicians than is currently required. The possibility of a shortage of medical personnel for the civilian population of the country which might result from such a course of action can be averted. We would like to restate our earlier recommendations that such examinations be conducted by civilian physicians on a fee basis, or by reserve personnel for the purpose of maintaining a satisfactory reserve status. This system is now operating successfully with respect to the conducting of periodic physical examinations for reservists by the armed forces.

(3) *Extent of Medical Services to Be Provided for Members of the National Security Training Corps: (a) Corrective Treatment and Rehabilitation:* The American Medical Association thoroughly supports the concept that those individuals who cannot meet the physical and mental requirements established for induction into the National Security Training Corps, should, when possible, be rehabilitated, but it equally strongly opposes the idea that this responsibility belongs to the federal government. The original version of s. 1, 82d Congress, contained a section providing for the assumption of corrective treatment and rehabilitative care by the federal government. The Association feels that the deletion of this section by the Congress prior to the enactment of s. 1 into law is indicative of congressional intent in this regard.

(b) Medical Care During Period of Basic Training: The treatment of injuries and sickness arising during or as a direct result of military service while in the National Security Training Corps will, of course, be a responsibility of government. It is believed that such treatment should be the same as that furnished currently to personnel of the armed forces. It is believed, however, that in light of the extremely short period of training and the favorable conditions which will prevail (i. e., no overseas assignments, no combat duty, etc.), the number of doctors per 1,000 inductees should not exceed the accepted requirements for the civilian population generally. Further, it is believed that whatever additional medical personnel is required should be obtained without enlarging the regular complement of the medical corps of the three services. With respect to the reserve personnel which will be recalled in this connection, it is recommended that a rotation system be adopted with short terms of active duty required.

(4) *Eligibility of Members of National Security Training Corps and Reserve Components for Veterans' Medical Benefits:* Though there are a variety of benefits presently available to wartime and peacetime veterans which may or may not be extended to the members of the National Security Training Corps, the American Medical Association would like to comment only with respect to medical and hospital benefits for non-service-connected disabilities. Existing provisions of law permit the treatment of certain non-service-connected disabilities in Veterans Administration facilities for persons "including veterans who served, regardless of length of service, during a period of war, (*a*) if they were discharged under conditions other than dishonorable; and (*b*) who swear that they are unable to defray the expenses of hospitalization."

In this connection, the Association is unalterably opposed to any suggestion which contemplates the extension of such care for non-service-connected conditions to members of the National Security Training Corps or other peacetime veterans. The use of the Veterans Administration facilities for such purposes would create a need for additional facilities and increased medical staffs, thereby adding to the growing strain upon the health and medical manpower resources of the nation created by the existing emergency.

The American Medical Association is in agreement with the recommendation contained in the initial report of the National Security Training Commission concerning the status of trainees with respect to veterans' medical benefits.

(5) *Source and Selection of Medical and Allied Professional Personnel:* There is considerable concern in the medical profession as to the manner of selecting the medical and allied personnel necessary to man a universal military training program and the proper agency to determine the extent of the need. This concern is predicated in a large measure on the fact that under the present proposal, all men on reaching the age of induction will be required to take basic military training and remain in a reserve component of the armed forces for seven and one-half years.

The American Medical Association is in favor of the establishment of a national civilian board, or a comparable agency, to insure the proper distribution of medical and other health reserves between civilian and military needs. Unless this is done, it will be extremely difficult to insure that such individuals serve in a manner which will contribute the most to the strength of the nation.

I. Dependent Medical Care

During the past months the Board of Trustees, as well as the Council on National Emergency Medical Service, the Council on Medical Service, and the Council on Medical Education and Hospitals, has considered the important subject of medical care for dependents of service personnel. The Board of Trustees, after reviewing a resolution on this subject from the Council on National Emergency Medical Service, submits the following statement to the House of Delegates so that a firm policy may be established by the Association in this regard:

The American Medical Association is desirous that the highest quality of medical care be provided and maintained for the entire population, including dependents of military personnel. This goal can only be realized through the greatest possible utilization of civilian community medical personnel and facilities rather than through the use of federal medical installations. The present practice of providing medical care for dependents of service personnel operates to the detriment of the community medical program. An additional result is the unnecessary and exceedingly costly expansion of military medical facilities, which, when combined with other federal medical programs, has resulted in an artificial shortage of medical and allied health personnel.

The Board, therefore, recommends that the House of Delegates adopt the following policy with respect to dependent medical care and that copies of this statement be forwarded to the President, the Secretary of Defense, and the Chairmen of the armed services committees of the Senate and the House of Representatives:

(*a*) That Congress be urged to consider carefully to define fully a national policy with respect to the provision of medical care for dependents of service personnel;

(*b*) That the Association advocate that any program devised for the care of dependents of military personnel be made contingent on the adoption of a clear and understandable definition of what constitutes a dependent;

(*c*) That the Association continue to recognize the need and importance of utilizing military medical personnel and facilities in providing hospitalization and medical care for dependents of service personnel residing outside the continental United States, and at or near military posts in the United States where civilian facilities are unavailable or inadequate;

(*d*) That except in situations as outlined in (c) above, the Association recommend that medical care and hospitalization of the dependents of service personnel be provided by civilian personnel in civilian facilities; and

(*e*) That the Association approve of the principle of premium payments by service personnel through the media of nongovernmental insurance agencies to cover the cost of medical and hospital care of their dependents through voluntary payroll deductions.

J. Report of Citizens' Advisory Commission on Medical Care of Dependents of Military Personnel (Moulton Commission)

At its meeting on Oct. 31 and Nov. 1, 1953, the Council on National Emergency Medical Service reviewed in detail the report of the Citizens' Advisory Commission on Medical Care of Dependents of Military Personnel (Moulton Commission), as well as statements from representatives of the various organizations and councils of the Association interested in the subject of dependent medical care, and submitted its recommendations to the Board of Trustees. The Board approved the report of the Council and presents the following statement with the recommendation that it be adopted by the House of Delegates:

The Board is of the opinion that the Citizens' Advisory Commission on Medical Care of Dependents of Military Personnel, under the chairmanship of Harold G. Moulton, was given insufficient time to investigate the many complex problems and issues involved in the provision of medical care for dependents of service personnel and that the commission has failed to take cognizance of the broad socialistic implications of this problem and the fact that a perpetuation or an extension of the present program transcends the interests of the Department of Defense.

In the commission's report complete emphasis has been placed on the justification and expansion of the present system rather than on determining the need for and the best method of providing dependent medical care. Also left unanswered is the question as to the extent of such dependent medical care and the serious consequences of drafting physicians under a discriminatory draft law to perform services for other civilians.

The conclusions contained in the report are not sufficiently explained or documented by substantial evidence and the recommendations would, if adopted, completely reverse the universally accepted position that civilian facilities, if available and adequate, should be utilized first and that the use of military facilities should be restricted to emergency situations and to overseas or remote areas.

The Board therefore recommends that the House of Delegates register its disagreement with the substance of the recommendations of the Moulton Commission and that its views be communicated to the Secretary of Defense and to the chairmen of the armed services committees of the Senate and the House of Representatives.

It further recommends that the newly established Commission on Organization of the Executive Branch of the Government, under the chairmanship of former President Herbert Hoover, be requested to consider the subject of dependent medical care, that the matter be thoroughly and exhaustively studied, and that the Congress be supplied with complete background and statistical information, as well as a discussion of the broad implications of the program, so that a sound national policy can be established.

Report of Reference Committee on Medical Military Affairs

Dr. William A. Hyland, Chairman, submitted the following report, which was adopted:

Resolution on "Doctor-Draft" Law: The report as presented by Dr. Murray states: The resolution on the "Doctor-Draft" law, introduced in June, 1953, by Dr. A. H. Aaron of New York, proposing that the recommendations of state and local Medical Advisory Committees to the Selective Service System be made mandatory rather than advisory, was considered by the Council on National Emergency Medical Service as directed by the House on recommendation of the Reference Committee on Legislation and Public Relations. It was the decision of the Council that its previous position be reaffirmed and that the proposal be not endorsed, and in this recommendation the Board of Trustees concurs. Experience has demonstrated that in the great majority of states the recommendations of the Medical Advisory Committees are accepted by state and local Selective Service boards. In addition, implementation of Dr. Aaron's proposal would require an amendment to the "Doctor-Draft" law. It is the opinion of the Board that such an amendment is neither necessary nor feasible at this time.

Your reference committee approves the decision of the Council, in which the Trustees concur, that the proposal be not endorsed owing to the fact that the implementation of Dr. Aaron's proposal would require an amendment to the "Doctor-Draft" law, it being the opinion of the Board that such an amendment is neither necessary nor feasible at this time.

Medical Policies in Disaster: Your committee recommends that the first sentence of the third paragraph be changed from "It is the recommendation of the Board of Trustees that the House of Delegates adopt a position in agreement with the statement of the American National Red Cross that the primary responsibility for the care of the sick and injured in disaster rests with the public health authority and local medl cal and allied professional organizations," to read: "It is th recommendation of the Board of Trustees that the House o Delegates adopt a position in agreement with the statemen of the American National Red Cross that the primary re sponsibility for the care of the sick and injured in disaste rests with local physicians and allied health personnel." It i further recommended that the first sentence of the fourtl paragraph become the last sentence of the third paragraph

Universal Military Training Program: The report, as rea by Dr. Murray, reads: "On Aug. 28, 1953, a statement pre pared by the Council on National Emergency Medical Serv ice and approved by the Board of Trustees was submitted t the National Security Training Commission. It is being pre sented to the House of Delegates at this time with the rec ommendation that the position recommended by the Associatio concerning the medical implications of a Universal Militar Training program may be affirmed. Affirmation of this stat ment does not in any way imply approval or disapproval c the establishment of a Universal Military Training program.

These medical implications referred to are: (1) The cor tinuation of preprofessional and professional education fc qualified students; (2) The performance of pre-induction, ir duction, and periodic reserve physical examinations; (3) Exter of medical services to be provided for members of the N tional Security Training Corps: (*a*) corrective treatment an rehabilitation, and (*b*) medical care during period of basi training; (4) Eligibility of members of National Security Trai ing Corps and Reserve components for veterans' medical ben fits; and (5) Source and selection of medical and allied pr fessional personnel.

Dependent Medical Care: Your committee recommends tl substitution of the word "method" for "practice" in the thi sentence of the second paragraph, and substitution of the wo "disadvantage" for "detriment" in the same sentence. Und (e) your committee recommends substitution of the wor "mechanism" for "principle."

Your reference committee wishes to emphasize with respe to this proposal that the policy advocated should not in an way be construed as one of opposition by the American Med cal Association to dependent medical care. As stated in th report, the recommendation is made that the Congress dete mine whether such care should be provided. The positio recommended refers only to the manner in which it should b provided if it is determined by the Congress to be a prope emolument of military service.

Report of Citizens' Advisory Commission on Medical Ca of Dependents of Military Personnel: Your committee recon mends deletion of the word "socialistic" in the last phrase c the second paragraph, and that in the middle of the fourt paragraph the word "generally" be substituted for "unive sally."

L. DONATION TO AMERICAN MEDICAL EDUCATION FOUNDATION

The Board contemplates another donation of $500,000 t the American Medical Education Foundation for the yea 1954. With this contribution the American Medical Assoc ation will have spent 2 million dollars for aid to the medica schools of the country. However, the Board wishes to call t the attention of the House that the financial status of th Association is such that a similar contribution cannot be con tinued indefinitely. Such an annual appropriation would soo become a matter of concern to the Board of Trustees in it effort to maintain a balanced budget. Consequently the Boar strongly urges the continued and increased support of medi cal schools by the individual physician and by organization in medical and allied fields.

M. REPORT OF COMMITTEE ON SPECIALISTS IN OTHER FIELDS

The Joint Committee of the Board of Trustees and the Council on Medical Education and Hospitals, appointed at the direction of the House of Delegates to study the relationship of American medicine to professional nonmedical groups in the health field, reported that it believes that the entire matter is of such importance that a small ad hoc committee will not do justice to the problem. The committee therefore recommended that (1) the Board of Trustees and the Council on Medical Education and Hospitals and its staff, in association with the appropriate councils and bureaus of the American Medical Association and relevant professional groups, undertake a detailed investigation of all facets of the problem and (2) following the receipt by the committee of a report from the Council on its findings and recommendations, the Committee on Specialists in Other Fields will submit a report of its recommendations to the Board of Trustees.

The Board concurs in the recommendations of the committee and requests the indulgence of the House of Delegates until a further report is received from the committee.

Report of Reference Committee on Medical Education and Hospitals

Dr. James Z. Appel, Chairman, submitted the following report, which was adopted:

Donation to the American Medical Education Foundation: The announcement by the Board of Trustees concerning the contemplation of another gift of $500,000 to the American Medical Education Foundation in 1954 is pleasing to note. Its warning that such annual gifts cannot continue indefinitely is most timely. It presents an added challenge to the medical profession as individuals to accept the obligation owed by each and every physician to the institution that has made his success in life possible. Without the instruction and training given to each of us by our respective medical schools at approximately one-third its cost, our station in life, our homes, and the benefits we give our children would not be possible. It is, therefore, a personal and family responsibility, not one for the profession at large. Doctors accept this challenge. This can be accomplished either by voluntary contributions or, if the constituent societies desire, by assessment. This latter method has been successfully demonstrated by the Illinois State Medical Society, whose membership should be complimented for their generosity.

Report of Committee on Specialists in Other Fields: The supplementary report of the Board of Trustees concerning specialists in nonmedical fields is simply informative and requires no action.

Messages Regarding Dr. George W. Kosmak and Dr. Charles H. Phifer

The Speaker announced that he had received a letter from Dr. George W. Kosmak regretting his inability, because of ill health, to attend the St. Louis Meeting, especially since this session would terminate his many years of service as delegate from the Medical Society of the State of New York.

It was also announced by the Speaker that Dr. Charles H. Phifer, delegate from the Illinois State Medical Society, and a member of the Council on Scientific Assembly, was unable to come to St. Louis because of illness.

The House of Delegates, by unanimous vote, instructed the Secretary to telegraph to Drs. Kosmak and Phifer the greetings and best wishes of the House.

Report and Supplementary Report of the American Medical Education Foundation

Dr. Louis H. Bauer, President, presented the report of the American Medical Education Foundation (see The Journal, Nov. 7, 1953, pages 956-957) and the following supplementary report, both of which were referred to the Reference Committee on Medical Education and Hospitals:

The report of the American Medical Education Foundation made to this House and printed in the Handbook of the House of Delegates was made as of July 1953. There have been some important changes in the status of the foundation since that report was rendered and for that reason this amended report is being made.

The income of the foundation now totals $1,000,174.00. This is worthy of note because it is the first time that the annual income has exceeded a million dollars since the inception of the foundation in 1950. This new total was made possible by the generous gift of the American College of Radiology, which renewed its support of this program with a gift of $2,000. Worthy of mention at this time also is the fact that the number of contributors to the foundation now exceeds the 1952 total by more than 200% (16,475 vs. 7,259 for 1952). The dollar amount received from individual contributors, mostly physicians, exceeds last year by approximately 50% and the gross total approximates a 15% increase over 1952. During the current year, with 65 of the 79 medical schools reporting their direct contributions, individual physicians in the United States have given $782,885 directly to their medical schools. This sum has been given by 22,273 individuals. At a regular meeting of the board of directors of the foundation the following were elected to serve as officers of the foundation or members of the board of directors: Dr. Louis H. Bauer, New York, was elected to the office of president, succeeding Dr. Elmer L. Henderson, deceased; Dr. George F. Lull was elected vice president, and Dr. Edward L. Turner, Secretary of the Council on Medical Education and Hospitals of the American Medical Association, was elected secretary-treasurer to fill the vacancy created by the resignation of Dr. Donald G. Anderson, dean, University of Rochester School of Medicine. Dr. Anderson, who served as secretary-treasurer of the foundation since its inception, was elected a member of the board of directors.

Report of Reference Committee on Medical Education and Hospitals

Dr. James Z. Appel, Chairman, submitted the following report, which was adopted:

Report of the American Medical Education Foundation: It is gratifying to note that the income of the American Medical Education Foundation now totals $1,000,174 and that the number of contributors to the foundation now exceeds the total for 1952 by more than 200% (16,475 vs. 7,259 for 1952). Likewise $782,885 has been given by individual physicians in the United States directly to their medical schools. In addition, recognition should be given to the American Medical Association for underwriting this foundation to the extent that every penny donated by a physician goes to a medical school.

Report of Judicial Council

Dr. Edward R. Cunniffe, Chairman, presented the following report of the Judicial Council, which was referred to the Reference Committee on Miscellaneous Business:

Since the interim meeting held in Denver in December, 1952, the Judicial Council has held four meetings divided into 14 sessions; 4 in conjunction with the annual meeting, 5 during the present clinical meeting, and the remainder at headquarters in Chicago. At these meetings routine business was transacted which included the recommendation of candidates for affiliate membership and consideration of many requests for decisions and opinions concerning ethical problems. In some instances, to insure prompt replies to inquirers, the Chairman of the Council gave personal, provisional opinions which were reviewed by the Council at subsequent meetings. Two appeals from decisions of constituent associations were heard by the Council. The following illustrate some of the questions which have been presented to the Council and the Council's action.

In the report of the Council submitted to the House of Delegates in December, 1952, it was stated that "the number of requests addressed to the Council for specific interpretations of the Principles of Medical Ethics continues to be ever increasing." This situation still prevails. The Council has no desire to avoid work which should legitimately come before it, but it has gained the impresison that many members of the Association do not fully grasp the real function of the Judicial Council in the proper administration of certain affairs of the Association. The Judicial Council is not an agency created to police the medical profession and enforce the Principles of Medical Ethics. The Bylaws of the Association vest in the Judicial Council the "judicial power" of the Association. This is authority to hear and determine issues presented to it but not to enforce or prosecute for violations.

It is true that the Council has jurisdiction over all matters of professional ethics, but this jurisdiction does not apply to the determination of the many ethical questions which often occur to the 140,000 or more members of the Association—it only applies to controversies. The Council was not created as a listening post for the purpose of airing discussions of abstract ethical problems. It is earnestly to be desired that individual members of the Association who question the ethics of some phase of their own or a colleague's practice should first submit their problems to the proper official body of their component medical society for a decision at the local level based on local custom and usage and local standards of practice. If this procedure is followed, only actual controversies will be presented to the Council and the proper work of the Council may be carried out more expeditiously.

Transfer of Membership

The Council has had numerous appeals from individuals regarding transfer of membership from one constituent association to another. Occasionally they have been unable to obtain membership in the component or constituent association to which they have applied for transfer despite the fact that they have been members in good standing of the American Medical Association. Many of these appeals have not been accompanied by all the information needed by the Council to enable it to render a decision. Some of the county and state organizations have failed to present complete membership data necessary for evaluation by the Council. This has resulted in the expenditure of unnecessary effort while obtaining facts pertaining to certain situations, and many times the Council has been unable to make a satisfactory decision due to the inadequacy of reports. These difficulties could be obviated if the county and state organizations would furnish a comprehensive summary of the membership activity of the applicant. This information would be of great value to the Council for many reasons. The prompt completion of this transfer is of vital importance to both the member and the American Medical Association, for if it is not completed in six months the applicant loses his membership in the American Medical Association and all the privileges attendant thereto. When a properly approved request for transfer is denied, the applicant can appeal to the Judicial Council. This privilege has been a tradition in our Association for many years.

Statement of Ownership of Pharmacy

The Council has had many inquiries regarding the ownership of pharmacies by physicians. The Principles of Medical Ethics are very clear in regard to this matter. Section 6, Chapter I of the Principles provides that "An ethical physician does not engage in barter or trade in the appliances, devices or remedies prescribed for patients, but limits the sources of his professional income to professional services rendered the patient." The Council has ruled that it is unethical for a physician to have a financial interest in a pharmacy in the area in which he conducts his professional activities and where he profits directly or indirectly from the sale of devices or remedies prescribed for his patients. This is particularly true when the services of other reputable pharmacies are readily available. Along with the problem of ownership of pharmacies by doctors may be considered the question of rental of space to a pharmacist in a clinic or office building owned or leased by physicians. When physicians rent such space on a sliding scale or for a percentage of the income received by the pharmacy the result is equivalent to receiving a rebate from the prescription and is therefore unethical.

The Purveyal of Medical Services

There have been many inquiries regarding the employment of physicians by hospitals. Most of them pertain to practices of anesthesiologists, radiologists, pathologists, and physiatrists.

The Council has repeatedly stated that the acceptance of a salary by a physician does not of itself constitute unethical conduct. This opinion is predicated on the Council's interpretation of the Principles of Medical Ethics, particularly Section 6, Article VI, Chapter III entitled, "Purveyal of Medical Services." It is the opinion of the Council that this section is a clear, unambiguous enunciation of a principle, and that ar uncertainty associated with the principle stems from failu to understand and appreciate that it must be applied to specific factual situation.

The issue to be resolved then is factual. If, in a given situ tion, a physician disposes of his professional services und terms which permit exploitation, his conduct is unethic Knowledge of the facts, however, may reveal that there is n exploitation; that there is not an unethical division of fe that there is not a denial of free choice of physician as d fined by the Principles or that the arrangement does not cau a deterioration of the quality of medical services.

The Judicial Council believes that the "Relation of Ph sicians and Hospitals" (Guides for Conduct of Physicians Relationships with Institutions) and the "Report of the Joi Committee on Hospital-Physician Relationships of the Boar of Trustees of the American Medical Association and Ame can Hospital Association" make it abundantly clear that wh such questions arise their solution depends on an analysis the factual situation which obtains in each relationship. Ea of these reports reaffirms in its own language existing ethi principles. Each suggests that solutions of controversies rel ing to financial arrangements can best be effected at the lo level. Each emphasizes that the question of ethics involv in establishing terms by which a physician may dispose his professional attainments or services depends on wheth they are exploited and whether any other principle of eth is involved.

Acceptance of Council Rulings

The Principles of Medical Ethics of the American Medi Association provides the basis on which are predicated principles of medical ethics, which are utilized to guide activities of physicians. The fact that a physician is a me ber of a specialty group or of a constituent association wh special interpretation of ethical principles has been provi does not release him from his obligation to comply with Principles of Medical Ethics of the American Medical As ciation. When classified special societies request a ruling the Council on behalf of their membership on the Princip of Medical Ethics, it is the duty of the membership of t particular society to accept the ruling of the Judicial Coun of the American Medical Association as final.

The Principles of Medical Ethics May Be Amended On by Vote of the House of Delegats of the American Medical Association

There have been instances in which a state association a specialty organization has announced an interpretation a segment of the Principles of Medical Ethics which is finitely contrary to that adopted by the American Medi Association. The Judicial Council wishes to emphasize that only method by which the Principles of Medical Ethics of American Medical Association may be altered requires formal presentation of a resolution to the House of Delega of the American Medical Association embodying an amer ment to the Principles of Medical Ethics. When the propos revisions are properly presented, they will receive appropri consideration and when reported by the reference committ will be subject to discussion and vote by the House of De gates. They may, however, be referred to the Council Constitution and Bylaws. The adoption and broadcasting so-called principles of medical ethics by any other proce by any other society or organization is to be condemne

Conclusion

In closing this report to the House of Delegates, your Jud cial Council solicits the most careful consideration by th members of the House and their constituency of 140,00 physicians to the loss of public confidence in the integrity the medical profession that follows each publicized expressi of personal opinion regarding unethical conduct alleged to currently prevalent in considerable segments of the natio We have the constitutional processes by which charges of u ethical conduct may be tried in an atmosphere of equity an fair play. Why not invite formal charges of misconduct amon members, and thereby insure each alleged offender trial by his peers rather than by sources that lead no further than to sensationalism and loss to our profession of the precious good will of the public?

Report of Reference Committee on Miscellaneous Business

Dr. H. Gordon MacLean, Chairman, presented the following report, which was adopted:

Report of the Judicial Council: Your committee reviewed the report of the Judicial Council and considered with great interest the various topics on transfer of membership, statement of ownership of pharmacy, the purveyal of medical services, and acceptance of council rulings. Your committee approves this report of the Judicial Council and recommends its adoption.

Report of the Council on Medical Education and Hospitals

Dr. H. G. Weiskotten, Chairman, presented the report of the Council on Medical Education and Hospitals (see THE JOURNAL, Nov. 7, 1953, pages 941-947), which was referred to the Reference Committee on Medical Education and Hospitals.

Report of Reference Committee on Medical Education and Hospitals

Dr. James Z. Appel, Chairman, submitted the following report, which was adopted:

Report of the Council on Medical Education and Hospitals: Your committee has carefully reviewed the report of the Council on Medical Education and Hospitals. Your committee wishes to call attention to that section of the report commenting on the National Commission on Accreditation. The Council is to be congratulated on keeping informed on this development and for its success in being formally recognized as one of the two agencies best fitted to establish standards and accredit programs in the field of medicine. It must be remembered that this does not close the issue.

It is further noted in the report that the Council recognizes the problem of evaluating the education and preparation of physicians who attended foreign medical schools and has informed your committee that it has instituted a continuing study of the problem.

In its report the Council has presented for approval by this House of Delegates two sets of essentials for technical schools. (1) Your reference committee has studied the "Essentials for the Training of Medical Record Technicians," which were temporarily approved by the House of Delegates in June, 1953. Your committee would like to point out that these essentials are incorrectly referred to as "Essentials for the Training of Medical Record Librarians" and should be referred to as "Essentials for the Training of Medical Record Technicians." With this correction, your reference committee recommends the approval of these essentials. (2) The Council also asks for approval of revised "Essentials of an Acceptable School of Medical Technology." Your reference committee has studied these revised essentials, has noted the alterations from the previous essentials, and recommends that the revised essentials be approved.

Your reference committee believes it desirable in this year's report to comment on the position which the Council on Medical Education and Hospitals occupies in the area of establishing and enforcing educational standards in medicine and related fields. Those who are not familiar with the history and traditions developed by the Council over a period of 50 years, with the support and encouragement of the House of Delegates, frequently assume that the Council's chief function is to protect the interests of the medical profession against any movements in medical education that physicians may feel are inimical to their personal interests. It is well known that the uninformed have often charged the American Medical Association with attempting through the activities of the Council to limit the number of physicians trained in this country. From time to time other less well-defined calumnies are advanced to support claims that the medical profession as such should have no voice in the establishment or enforcement of the educational standards. This attitude, which is unfortunately encountered too often, is potentially a dangerous one. The Council has recognized this danger and has constantly rededicated itself to the belief that it should at all times maintain maximum objectivity and that at all times in establishing and enforcing the standards it should be guided by the simple criterion of what is best for the public and what is best for medical education. Through the years the Council has striven, and your reference committee believes with success, to maintain this position even though it has at times brought serious criticism on the Council from small or large segments of the medical profession who fear personal inconvenience from the Council's actions. The Council has endured this criticism because it believes that the medical profession's legitimate interest and important influence in the maintenance of high standards of medical education can be preserved only so long as universities, medical schools, hospitals, and the general public have confidence that the profession's designated agency in educational matters, the Council, is free to devote itself to the support of sound principles of education and the welfare of society. It believes that the attainment of these objectives is also in the best interest of the welfare of the profession itself. Your reference committee feels certain that the House of Delegates appreciates the importance of this view and will support the Council in maintaining it.

A related problem that may be appropriately discussed at this time is the relationship of the Council's standards to the laws or regulations of individual states. On occasion in the recent past, the view has been advanced that the Council should not adopt any standards for the approval of institutions that are in conflict with the laws or regulations of any state. This is an untenable position. Its acceptance would mean that the Council could not raise standards above those of the state having the lowest standards. Approval by the Council is a voluntary, unofficial matter which must be requested by the individual institution. If an individual state imposes restrictions on a class of institution that will not permit them to meet the Council's standards, the institutions so affected have the choice of not seeking the Council's approval or working for a modification of the laws or regulations that prevent them from meeting the Council's standards. Your reference committee feels certain that it has the support of the House of Delegates on this fundamental issue because otherwise the Council would be powerless to have any influence on educational standards on a national basis.

The Council is also charged with the responsibility of inspecting and approving hospitals in their functions as agencies for graduate training. It is the belief of your reference committee that this activity directly improves the quality of medical service available to the public. Furthermore, it increases the effectiveness of the profession in its responsibility for the care and prevention of ill health.

Your reference committee recommends that the report of the Council on Medical Education and Hospitals be approved.

Report of Council on Scientific Assembly

Dr. Samuel P. Newman, member, presented for Dr. Henry R. Viets, Chairman, the following report of the Council on Scientific Assembly, which was referred to the Reference Committee on Sections and Section Work:

To the Members of the House of Delegates of the American Medical Association:

Since the report given at the 1952 Clinical Meeting, the Council on Scientific Assembly met on Feb. 2, 1953, in New York, on May 31, 1953, also in New York, and on Oct. 19, 1953, in Chicago. Informal meetings were held in St. Louis on May 4 and on July 15 in Chicago, and the Council met with the Section Secretaries in Chicago on Oct. 20, 1953. The chairman also met with the officers of the Dade County

Medical Society in Miami, Nov. 11 and 12, for a preliminary consideration of the program for the Clinical Meeting to be held in Miami in December, 1954. The chairman also visited a number of medical schools in the South and Southwest for consultations with the deans and the faculty regarding the composition of the Miami program. The usual business was conducted at the various meetings of the Council with the principal emphasis being placed on program construction, integration with the activities of the Section Secretaries, a free interplay between the Council and the Committee on Scientific Exhibit and, in general, a drawing together of many divisions of the Scientific Assembly under the general guidance of the Council.

Denver Clinical Meeting

The Denver meeting was well attended; in some instances there were more persons at the General Assemblies than at the Annual Meeting in Chicago, held the previous June. The clinical presentations were also better attended than were some of the Section meetings in Chicago. The high rate of registration from Colorado and adjacent states, plus the enthusiasm shown by the physicians attending the individual sessions, gave sound evidence of the value of the Clinical Meeting to practitioners in areas of the country where the Annual Meeting could not be held because of limited accommodations. The Council is fully aware of the great educational opportunity provided by the Clinical Meetings and in building its programs quality has always been the first consideration both in the Assembly and in the exhibits. The Council would consider it appropriate to think in terms of regional areas rather than states when planning meetings in the future, lest the Clinical Meeting of the American Medical Association become a "glorified state meeting," rather than one embracing larger sections of the country, such as the Northwest, the Southwest, New England, etc. The Council noted with pleasure the activities of the Woman's Auxiliary in Denver and felt that their cooperation contributed greatly to the success of the meeting. It was suggested that this aspect of the Clinical Meeting might be more extensively developed at future meetings.

New York Annual Meeting

The meeting presented no unusual features as far as the program was concerned except the panel discussion in the General Scientific Meetings Friday morning on "Today's Medicine for Tomorrow's Patient." In spite of the large total registration, the audience was surprisingly small, again illustrating the difficulty of reaching a full attendance on the last day of the meeting even when an exceptional program is provided. The Section meetings in New York were fairly well attended. The upward trend in attendance noted in the last few years continued, although some of the Sections drew smaller numbers than in the past. No Section, however, fell to such a low level in attendance that its discontinuance was considered.

Future Meetings

Plans for the San Francisco Annual Meeting are well formulated. In most instances the Section Secretaries were able to report on a completed program when the Council met with them in an all day session in Chicago on Oct. 20, 1953. The Council suggested that a brief business meeting be held on the first day of the Section meetings, in addition to the regular business meeting on the second day, for the purpose of presenting resolutions which the Section may wish its delegates to introduce in the House of Delegates.

Reorganization Plan

Since January, 1948, when the first Clinical Meeting of the American Medical Association was inaugurated, the Council has been giving primary consideration to the preparation of programs for both the Annual and Clinical Meetings. Through the year 1953, including the St. Louis Meeting, 13 such programs have been arranged. Based on the experience of the Council during this period and after full consideration, e Council is now of the unanimous opinion that a reorganization plan should be considered at this time. The principal changes would be as follows:

1. The Council on Scientific Assembly should become a committee of the Board of Trustees, rather than a committee of the House of Delegates.
2. The Council on Scientific Assembly should incorporate into its structure the Committee on Scientific Exhibit.
3. A permanent office should be established at American Medical Association headquarters with a full-time secretary to carry on the activities of the Council as reorganized.
4. The Council should be enlarged from seven members to ten.
5. The Council on Scientific Assembly, constituted as above, would be able to set up separate committees on scientific exhibits, television, motion pictures and association exhibits, and a general program committee for both the Annual and Clinical Meetings.
6. The functions now carried on by the Council, other than arranging the programs, would be retained.
7. Report of the Council's activities would become part of the Report of the Board of Trustees and would still be subject to action by the House of Delegates.
8. The chief reason for reorganization is to aid in coordinating the functions of the Council with those of the Committee on Scientific Exhibit and other related components of the American Medical Association headquarters having to do with the Scientific Assembly.
9. If the plan is adopted, appropriate changes in the Bylaws will be necessary.

Miscellaneous

The Council voted to allot a Session on Legal Medicine and a Session on Allergy in the Section on Miscellaneous Topics for the San Francisco Annual Meeting. For the San Francisco Meeting, it was voted to revert to the former practice of holding the General Scientific Meetings all day on Monday and on Tuesday morning. The Section meetings will begin on Tuesday afternoon and continue through Friday morning.

The Council noted with regret the death of two former members, Drs. Frank H. Lahey and Alfred A. Walker. Dr. Lahey served the Council for ten years, from 1927 to 1937. Dr. Walker was a member from 1935 to 1945 and chairman from 1942 to 1945. Both contributed to the growth of the Council and brought the Scientific Assembly to a high standard through their devotion to the best interests of the American Medical Association.

Report of Reference Committee on Sections and Section Work

Dr. Jesse D. Hamer, Chairman, presented the following report, which was adopted:

The report of the Council on Scientific Assembly was reviewed by your committee, wherein it was noted with satisfaction the report submitted by this council concerning the quality of the programs displayed at the Denver Clinical Meeting last December and the New York Annual Meeting in June, 1953. It was noted also that plans are now well under way for the scientific program that will be presented in San Francisco next June and at the Miami Clinical Meeting in December, 1954.

Attention is called to this House by your committee to a consideration of the report of the Council on Scientific Assembly wherein a reorganization plan concerned with the Council and the Bureau of Exhibits is suggested. Your committee heard several representatives of both the Council on Scientific Assembly and the Bureau of Exhibits, all of whom expressed the desire that this reorganization plan begin the process of activation. No one appeared before your committee in opposition to this proposed plan.

Your committee recommends that the proposed reorganization plan affecting these two departments be accepted by this House in principle, and that it be referred to the Board of Trustees for further implementation.

Report of Council on Medical Service

Dr. Elmer Hess, Chairman, presented the report of the Council on Medical Service (see The Journal, Nov. 7, 1953, pages 947-955), which was referred to the Reference Committee on Insurance and Medical Service:

Supplementary Report of Council on Medical Service

Dr. Elmer Hess, Chairman, presented the following supplementary report of the Council on Medical Service, which also was referred to the Reference Committee on Insurance and Medical Service:

To the Members of the House of Delegates of the American Medical Association:

Following out the directives of the House of Delegates, which are found in the Council's report, the Council on Medical Service wishes at this time to submit the following supplemental report:

Four regional conferences concerning the policy of the American Medical Association with respect to veterans' medical care have been held by the Council's Committee on Federal Medical Services. These conferences, held in New York, Washington, Atlanta, and Dallas, were well attended by representatives of the 20 state medical associations invited.

The purposes of these conferences were: (1) to develop a working liaison with state association veterans' committees; (2) to discuss methods for carrying out the instructions of the House of Delegates; (3) to increase the number of physicians who have a working knowledge of the policy and the facts relating to it; and (4) to learn the situation in each state.

It is the consensus of the committee and the staff members attending these conferences that they were most successful in accomplishing the above listed purposes. In view of this, the Council recommends that, as soon as possible, similar regional conferences be held in those areas of the country not previously covered so that all states may be included. The Council further recommends that the House urge each state medical association to take formal action approving the policy statement on medical care for veterans with non-service-connected disabilities as adopted by the House in June, 1953. Finally, the Council recommends that it be authorized to develop liaison, through its Committee on Federal Medical Services, with national and local organizations interested in and concerned with veterans' medical care.

The Council would also like to take this opportunity to commend the chairman and members of the Committee on Federal Medical Services and the panel members participating in these conferences for the excellent manner in which they have been carrying out the directives of the House of Delegates.

Report of Reference Committee on Insurance and Medical Service

Dr. John M. Porter, Chairman, submitted the following report, which was adopted:

The work of the Council on Medical Service is of such tremendous scope and covers such varied fields that your committee and no doubt the House of Delegates has difficulty in appreciating all that has been done by the Council and its committees. Commendation and thanks are certainly in order to its chairman, its secretary, and all its members, who could not have accomplished what they have without tremendous sacrifice of time and effort. The work of the Council is reported in seven sections, corresponding to the actions taken by the different committees. Since there is some overlapping, the report of your reference committee will not follow these sections exactly.

In the matter of Extension of Hospitals and Other Facilities, your committee approves of all the actions reported. Continuation of the work on physician placement programs is especially important, with emphasis placed as it should be on what the community can do to attract new physicians, what the physician contemplating a change can do to adapt himself to a new community, and what organized medicine can do to get these two together and later to maintain the partnership by furnishing postgraduate education and other professional contacts.

Further stimulation of the formation and aggressive functioning of emergency call plans, grievance committees, and other community medical service programs is in order as planned by the Council. Your committee feels that the Council is right in assuming that the report of the Joint Committee on Hospital and Physician Relationships adopted in June, 1953, is supplemental to the report of December, 1951 on "Relationships of Physicians and Hospitals," but believes that it should be emphasized that the later document does not replace or repeal the first report.

It is obvious that the Committee on Indigent Care has given long and thoughtful consideration to that ever-recurring problem. Your reference committee recommends utilization of the "Guides for Evaluating Indigent Medical Care" wherever possible, but agrees with the statement that local problems will at times take precedence.

In the matter of maternal and child care, your committee feels that it cannot improve on the language of the Council report, and therefore quotes its recommendations and suggests your approval: "The only realistic approach to the problems encountered is . . . through local physicians, local hospitals and local agencies working . . . together to provide such care and services as are necessary." The Council recommends to the House of Delegates, and your reference committee approves, "That that portion of the report of the Citizens' Advisory Committee on Medical Care for Dependents of Military Personnel that has to do with maternal and child care be opposed, and that the Department of Defense be made aware of the work and conclusions of this Committee."

In regard to the request that the Los Angeles County Medical Association carry out the requests of the Council in the matter of a pilot study in maternal and child care and that the conclusions of this study be recommended to all county medical societies, your reference committee has taken no action, inasmuch as it understands the study is at present stalled for lack of funds.

The matter of medical care for industrial workers would seem to your committee to be a difficult problem in which many undesirable situations could easily arise. Comment before the committee in this regard would apparently justify the committee's apprehension. So far, union health centers, medical care of coal miners in isolated communities under the United Mine Workers' Welfare and Retirement Program, and similar innovations would seem to fit properly into the necessarily expanding care demanded by industrial groups. However, the opportunities for abuse of great sums of money by either management or the profession, possible extension of paternalistic schemes from areas where they might be necessary to larger urban centers where they would compete with existing medical facilities, and the tendency at times to ignore or override such fundamental concepts as free choice of physician are menacing possibilities. Your committee commends the Council for studies already made, in particular the conferences called in the soft coal areas, and recommends further careful study of this problem, keeping constantly in mind that the practice of medicine by groups and organizations under no circumstances frees the practitioner from adherence to the Principles of Medical Ethics, which guide the rest of us in our day-by-day professional contacts.

The Council reports continuing study of the presently unsatisfactory situation as regards professional liability insurance. Your committee recommends that this be continued and in view of the interim report presented by the Council recommends that no action be taken on Resolution No. 31 presented to this House Dec. 1 by Drs. Halley and Unfug, Colorado, which requested an investigation of this problem by the Board of Trustees.

Veterans medical services are referred to in the body of the Council report and again in the supplemental report presented to this House on Dec. 1. Your reference committee is in full agreement with the Council in its statement that the action of the House of Delegates in New York last June clearly stated its policy regarding treatment of non-service-connected disabilities by the Veterans' Administration. Unless and until that policy is changed by action of this House, the only problem remaining is how best to promote and gain support for this concept. Your reference committee feels that grass roots education of the public as outlined by the Council and as started in limited parts of the country is essential and should be expanded. Your committee feels that attention and effort in this regard is at present more urgent than attempts at direct legislative activity. The physician and the veteran are both voters and taxpayers, and certainly their best interests cannot be too far removed from one another. Education along this line is essential, and with it emphasis should be continued on the basic concept that only in this way can the best of care be furnished as it should be for those veterans with service-connected injuries or illness.

All of us can read with pride the latest figures on the expansion of voluntary prepayment health insurance. There is no need to quote the statistics furnished by the Council, because by the time that any totals can be published they have been exceeded. Nevertheless, certain fields have not yet been adequately covered, and vigilance and further work are essential. Numberless persons, many at state and local levels, share in the credit for the tremendous expansion of voluntary prepayment insurance. An essential part of this growth, however, has been the correlation and coordination furnished by the Council. Your committee commends the Council and recommends further stimulation along these lines, and also recommends adoption of Resolution No. 7, introduced by Dr. Baum for the Oregon State Medical Society.

The thanks of the committee are extended to those who attended the somewhat drawn-out hearings of the committee and the thanks of the chairman to those members of the committee who cooperated in the preparation of this report.

Report of Council on Constitution and Bylaws

Dr. Louis A. Buie, Chairman, presented the following report, and sections A, B, C, D, and E were referred to the Reference Committee on Amendments to the Constitution and Bylaws, and sections F and G to the Reference Committee on Miscellaneous Business.

To the Members of the House of Delegates of the American Medical Association:

A. The Council has considered several resolutions that were referred to it by the House of Delegates and reports as follows on each resolution:

(1) An amendment to Chapter IV, "Disciplinary Action," was offered by Dr. Joseph D. McCarthy, Nebraska, and, after amendment by the Reference Committee on Constitution and Bylaws, was adopted by the House of Delegates. This proposed amendment as adopted was referred to the Council on Constitution and Bylaws for implementation. The Council, in accordance with the action of the House of Delegates, has divided Chapter IV into 2 sections—Section 1 consisting of the present Chapter IV, and a new Section 2 which reads, "The Judicial Council, after due notice and hearing, may censure, suspend or expel any Service, Affiliate or Honorary Member of the Association for an infraction of the Constitution or these Bylaws, or for a violation of the Principles of Medical Ethics." In addition the Council has added titles to Sections 1 and 2, which read "Active and Associate Members" and "Service, Affiliate, and Honorary Members" respectively.

(2) A resolution on Seating of American Medical Association Delegates was introduced by Dr. John P. Culpepper Jr., Mississippi. This resolution sets forth provisions for the seating or unseating of delegates of constituent associations whose delegate representation was increased or decreaed by virtue of a change in American Medical Association membership within that constituent association. The reference committee, after consideration of the resolution, reported that "because of the different conditions in the several states and because the committee is of the opinion that each state should decide the manner of election of its delegates, this resolution should be referred to the Council on Constitution and Bylaws without recommendation." The Council, after study of this resolution, reached the same conclusion as the reference committee. Each constituent association should determine the method of selection of its delegates in a manner that does not conflict with the provisions of the Constitution and Bylaws of the American Medical Association. The Council, therefore, recommends that the resolution be not adopted.

(3) Dr. Russel V. Lee, Section on Military Medicine, presented the following Resolution on Revision of Principles of Medical Ethics:

> *Resolved*, To substitute for Chapter I, Sections 1 and 2 of the Principles of Medical Ethics the following section 1:
>
> We, physicians, affiliated with the American Medical Association, recognizing that, in common with physicians of the entire world, we are only trustees for the benefit of all mankind of the great treasure of medical knowledge and skill accumulated through the ages, accept with the trusteeship certain obligations as follows: (1) To make these benefits accessible to all who need them insofar as facilities permit; (2) to exercise these skills for the benefit of all humanity; (3) to strive constantly to improve ourselves in knowledge and skill; (4) to teach our art to all of good character who have the desire and capacity to learn insofar as proper means can be developed; (5) to increase by research and other means this share of knowledge and to make our discoveries freely available to all physicians; (6) to resist all attempts to misuse our services for political purposes, while freely discharging all our obligations as citizens; (7) to devote our skills to the alleviation of suffering and the deferment of death and never for any reason to the termination of human life; (8) to aid and support our medical colleagues in all countries in the attainment of proper humanitarian objectives; (9) to maintain in our relationships with our patients, our colleagues, and the public the strictest standard of personal honor, and (10) to dedicate our knowledge and skills and our lives to the alleviation of suffering, the prolongation of life, and the enrichment of living for all men without thought of any personal advantage or gain.

The reference committee recommended referral of the resolution to the Council on Constitution and Bylaws for its consideration in the forthcoming revision of the Principles of Medical Ethics. The Council has carefully considered this proposed amendment of the Principles of Medical Ethics but has deferred final action pending the consideration of amendments to other sections of the Principles of Medical Ethics which, in the opinion of the Council, are more urgent at this time. The Council, in its revision of the Principles of Medical Ethics, has adopted the policy of proceeding slowly and of giving its attention to those sections which have been most controversial and to the format of the Principles. The revisions suggested by the Lee resolution do not constitute any fundamental change in the existing Principles but are primarily a rewording and restatement of Sections 1 and 2. When the Council has completed other portions of the Principles, it will give further consideration to this resolution. The Council, therefore, recommends that action on the resolution be postponed.

(4) Two resolutions on (*a*) Principles of Medical Ethics, and (*b*) Clarification of Section 5 of Principles of Medical Ethics were introduced by Drs. Harlan English, Illinois, and Millard D. Hill, North Carolina, respectively. These resolutions refer to one of the most controversial sections of the Principles and request the Council on Constitution and Bylaws to outline in specific terms billing procedures when two or more physicians render medical service to a single patient.

After exhaustive consideration of the problem, the Council recommends to the House of Delegates that revision of Section 5, Article VI, Chapter III, be deferred until the constituent associations have had an opportunity to study a questionnaire and report to the Council the billing procedures that are approved in their respective areas. The Council believes that the nature of this subject is so vital that any action taken by this House of Delegates should clearly reflect the prevailing opinions of the constituent associations. The Council proposes to conduct a questionnaire survey of the constituent associations to determine their official policies on this matter, after which it will report its findings to the House of Delegates. The Council recommends that the House endorse its decision to postpone action until this survey has been completed. It also requests that the House urge the constituent associations to give their special attention to this survey.

(5) Resolutions on Membership in the American Medical Association Sections were introduced by Dr. R. J. Azzari, New York, as follows:

> *Resolved*, That the method of enrolling as members of the several sections be altered so that a member will indicate his specialty membership preference at the time of paying his American Medical Association dues, instead of being required, as at present, to be present at the annual meeting; and be it further
>
> *Resolved*, That the Secretary of the American Medical Association cause to be prepared rosters showing the names of those who have indicated their desire to become members of the several sections, and these lists so prepared shall constitute the membership rolls of the several sections so long as these members remain in good standing.

The reference committee, in conference with the Secretary of the Association, approved the resolution, and it was adopted by the House of Delegates. It was referred to the Council on Constitution and Bylaws for implementation, since it requires an amendment of the Bylaws, Division Two, Chapter V, Sec. 1 (A). The Council recommends that this resolution be reconsidered by the House of Delegates, since it was introduced as a simple resolution and should have been introduced as a resolution to amend the Bylaws, and, furthermore, the implications of the resolutions are so far-reaching that the Reference Committee on Amendments to the Constitution and Bylaws of this House of Delegates should be given an opportunity to reevaluate their impact with the assistance of the Secretary and members of this Council. It is the opinion of the Council on Constitution and Bylaws that the American Medical Association is divided into sections mainly for the purpose of providing registration at the Scientific Assembly and not to establish autonomous professional societies within the Association.

B. The recommendation has been made to the Council on Constitution and Bylaws by the Secretary and General Manager and the Speaker of the House of Delegates that the Reference Committees on Hygiene and Public Health and Industrial Health be combined, since the number of resolutions referred to each reference committee rarely is sufficient in number to warrant a separate committee and since the subject matter overlaps to a certain extent. The Council concurs in this recommendation and recommends that Chapter XII, Section 4 of the Bylaws be amended as follows to provide this change.

(1) Subsection (F), Section 4, Chapter XII, revise this subsection to read, "(F) Hygiene and Public Health and Industrial Health to which shall be referred all matters relating to hygiene and public health and all matters relating to workmen's compensation and those phases of medical care, including rehabilitation and public health administration, which affect the worker";

(2) Subsection (J), Section 4, Chapter XII, delete the entire subsection.

(3) Subsection (K), Section 4, Chapter XII, shall become Subsection (J) without any change.

(4) Subsection (L), Section 4, Chapter XII, shall become Subsection (K) without any change.

(5) Subsection (M), Section 4, Chapter XII, shall become Subsection (L) without any change.

(6) Subsection (N), Section 4, Chapter XII, shall become Subsection (M) without any change.

C. The Director of the Department of Records and Circulation recommended to the Council that the Bylaws be amended by adding to Chapter III, Section 5, the sentence, "Members of the American Medical Association who have been dropped from the membership roll for nonpayment of annual dues can not be reinstated until such indebtedness has been discharged, but such indebtedness shall apply only to the one year of delinquency." The Council concurs in this recommendation and recommends that the amendment be adopted by the House of Delegates.

D. Review of Sections 1 and 2, Chapter VIII of the Bylaws, reveals that the term "Editor of The Journal" appears in several places. The Council recommends that for the sake of clarity the word "Editor" be used, and that the words "of The Journal" be deleted from the 7th line of Section 1, Chapter VIII, and from the last line of Section 2, Chapter VIII.

E. The Council wishes to call the attention of the House of Delegates to an excellent article entitled "Development of Uniformity in Membership Regulations Between Constituent Associations and the A. M. A." which appeared in the Nov. 28, 1953, issue of THE JOURNAL. The Council believes that every constituent and component medical society should give this article special attention and attempt to implement the recommendations made therein so that membership requirements in the component societies can be made more uniform.

F. Principles of Medical Ethics: The Council recommends that the format of the Principles be changed so that a consistent terminology is used throughout in identifying the various chapters, sections, and paragraphs. To accomplish this uniform identification, the Council recommends the following changes:

(A) 1. All chapters shall be designated by Roman numerals.
    2. All sections shall be designated by Arabic numerals.
(B) 1. Delete the designation "Article I" so that the four sections of this article compose the entire Chapter III.
    2. Delete "Article II" and substitute "Chapter IV", so that this chapter will contain three sections.
    3. Delete "Article III" and substitute "Chapter V," which will contain eight sections.
    4. Delete "Article IV" and substitute "Chapter VI" and delete "Article V," which becomes Section 9 of Chapter VI.
    5. Delete "Article VI" and substitute "Chapter VII," which contains six sections.
(C) 1. Delete "Chapter IV" and substitute "Chapter VIII," which contains three sections.

The changes enumerated under (B) 1 to 5, provide for the elimination of the word "Article" from the Principles of Medical Ethics and the substitution of the word "Chapter" so that the Principles, after these changes are made, will contain chapters and sections throughout.

G. The Council has given special attention to Section 5, "Educational Information Not Advertising." It recommends that the second paragraph, which refers to advertising, be transferred to Section 4, where it becomes the second paragraph. The Council recommends that the title of Section 5 be changed from "Educational Information Not Advertising" to "The Relationship of the Physician to Media of Public Information," and that the following revised Chapter I, Section 5 by approved by the House of Delegates:

THE RELATIONSHIP OF THE PHYSICIAN TO MEDIA OF PUBLIC INFORMATION

Many people, literate and well educated, do not possess a special knowledge of medicine. Medical books and journals are not always easily accessible or readily understandable.

The medical profession considers it ethical for a physician to meet the request of a component or constituent medical society to write, act or speak for general readers or audiences. On the other hand, it may often happen that the representatives of popular news media are the first to perceive the adaptability of medical material for presentation to the public. In such a situation the physician may be asked to release to the public some information, exhibit, drawing or photograph. Refusal to release this material may be considered a refusal to perform a public service, yet compliance may bring the charge of self-seeking or solicitation.

An ethical physician may provide appropriate information regarding important medical and public health matters which have been discussed during open medical meetings or in technical papers which have been published, and he may reveal information regarding a patient's physical condition if the patient gives his permission, but he should seek the guidance of appropriate officials and designated spokesmen of component or constituent medical societies. Spokesmen should be empowered to give prompt and authoritative replies and a list should be issued which identifies them and discloses the manner in which they may be reached. These provisions are made with full knowledge that the primary responsibility of the physician is the welfare of his patient but proper observation of these ethical provisions by the physician concerned should protect him from any charge of self-aggrandizement.

Scientific articles written concerning hospitals, clinics or laboratories which portray clinical facts and technics and which display appropriate illustrations may well have the commendable effect of inspiring public confidence in the procedure described. Articles should be prepared authoritatively and should utilize information supplied by the physician or physicians in charge with the sanction of appropriate associates.

When any sort of medical information is released to the public, the promise of radical cures or boasting of cures or of extraordinary skill or success is unethical.

An institution may use means, approved by the medical profession in its own locality, to inform the public of its address and the special class, if any, of patients accommodated.

Report of Reference Committee on Amendments to the Constitution and Bylaws

Dr. William L. Benedict, Chairman, submitted the following report, which was adopted and the Resolutions on Membership in American Medical Association Sections, referred to in paragraph A(5) of the report of the Council on Constitution and Bylaws, rescinded:

Your committee has carefully considered the report of the Council on Constitution and Bylaws presented by the Chairman, Dr. L. A. Buie. In reference to A(1) of this report your committee approves the action of the Council relative to Chapter IV of the Bylaws entitled "Disciplinary Action" and recommends adoption of this portion of the report.

A(2) A resolution on seating of American Medical Association Delegates was introduced in June, 1953, by Dr. John P. Culpepper Jr. of Mississippi. Your committee approves the recommendation of the Council that the resolution be not adopted.

A(3) A resolution introduced by Dr. Russel V. Lee proposed specific amendments to the Principles of Medical Ethics. This committee approves the action of the Council in recommending that action on the resolution be postponed.

A(4) The Council recommends that the House endorse its decision to postpone action on these resolutions until a survey of the constituent associations be completed and requests that the House urge the constituent associations to give their special attention to this survey. Your committee commends the Council on its decision and recommends the adoption of this portion of their report.

A(5) This resolution adopted by the House of Delegates in June, 1953, was referred to the Council on Constitution and Bylaws for implementation, since it requires an amendment of the Bylaws, Division Two, Chapter V, Sec. 1(A). Your committee has information that the objectives of the sponsors of this resolution adopted by the House in June, 1953, have been attained by other means. Your committee concurs in the request of the Council that this resolution be reconsidered by the House of Delegates.

(B) Your committee concurs in the recommendation of the Council with the substitution of a comma for "and" after "Hygiene."

(C) Your committee approves the recommendation of the Council on the proposed amendment with the addition to the recommended sentence of the words, "provided that the year 1950 shall not constitute the year of indebtness," so that this amendment will read: "Members of the American Medical Association who have been dropped from the membership roll for nonpayment of annual dues cannot be reinstated until such indebtedness has been discharged, but such indebtedness shall apply only to the one year of delinquency, provided that the year 1950 shall not constitute a year of indebtedness."

(D) This committee approves and recommends the adoption of Section D of the report.

(E) Your committee approves and recommends the adoption of Section E of the report.

Your reference committee desires to express its heartiest commendation to the council on Constitution and Bylaws for its outstanding service to the Association, and to the members of the Council individually and collectively our sincere appreciation of their accomplishments, and to pledge our support to their efforts to so construct the Constitution and Bylaws that they may best guide our members in the conduct of their professional lives.

Report of Reference Committee on Miscellaneous Business

Dr. H. Gordon MacLean, Chairman, submitted the following report, which was adopted:

Report of the Council on Constitution and Bylaws: The Reference Committee on Miscellaneous Business received sections F and G of the report of the Council on Constitution and Bylaws for its consideration. In section F the Council recommends that the format of the Principles of Medical Ethics be changed so that a consistent terminology is used throughout in identifying the various chapters, sections, and paragraphs. The recommendations to accomplish this are approved. In Section G the Council recommends that the title of Section 5 be changed from "Educational Information Not Advertising" to "The Relationship of the Physician to Media of Public Information," and that Section 5 be revised as submitted in the report. Your committee approves these recommendations and recommends the approval of these sections of the report.

Report of the Committee on Blood

Dr. L. W. Larson, Chairman, presented the following report, which was referred to the Reference Committee on Miscellaneous Business:

Defense Blood Requirements: The end of the Korean hostilities resulted in a sharp downward drop in defense blood requirements. Since June 30, 1953, on advice of the Office of Defense Mobilization, the American National Red Cross has closed all of its 15 defense centers and terminated contracts with all of the 33 participating private blood banks which supplied blood for defense use. At present, defense blood collections are made only in regions served by the 45 regional Red Cross centers. The community blood banks have been required to make onerous reorganizations of their personnel and programs as a result of the cancellation of their defense contracts. A public relations problem also has been created since the public and the profession experience difficulty in understanding the continued public appeals for defense blood in the face of the withdrawal of organized defense collections in many areas of the country. It is hoped that the geographic inequities presently existent in the defense collection of blood may be averted by future agreements so that donors in all parts of the country may have the privilege of aiding the defense effort. In recognition of the public relations problem, the Office of Defense Mobilization has invited representatives of the American Medical Association and the American Association of Blood Banks to membership on its publicity policy committee.

Gamma Globulin: In the June report of the Committee on Blood, the composition of the national pool of gamma globulin and its method of allocation and distribution under the Office of Defense Mobilization was described. The actual task of distribution was delegated to the Division of Civilian Health Requirements of the United States Public Health Service. It will be recalled that the plan contemplated distribution of three allocations of poliomyelitis immune globulin. The basic allotment was made available on May 15 on request of state or territorial health officers.

On the basis of an increased incidence of poliomyelitis, 23 areas requested and received additional allocations, and in 14 areas supplementary gamma globulin was made available for mass prophylaxis. Thus from May 15 to Sept. 30, 1953, 1,715,000 cc. of gamma globulin was distributed under basic allocation; 436,344 cc. was made available as an additional allocation; 1,588,930 cc. was utilized in mass prophylaxis; and 32,402 cc. was used for research and special allocations. Of the total of 3,772,676 cc. thus distributed, 1,207,600 cc. was supplied to the pool by the National Foundation for Infantile Paralysis. The remaining 2,565,076 cc. was supplied by the American National Red Cross. In July, the Surgeon General of the United States Public Health Service organized a committee of practicing physicians to advise the service on practical problems encountered by practicing physicians in the explanation and the operation of the distribution system. Taken from the over-all viewpoint, the plan seems to have operated fairly smoothly. Initially, there were occasional difficulties in securing gamma globulin for measles prophylaxis. This resulted from misunderstanding on the part of a few local health officers that measles and infectious hepatitis should be given priority of use of gamma globulin.

If the incidence of poliomyelitis continues on the same level as indicated for the period May 15 to Sept. 30, 1953, it is anticipated that the pool will have a surplus of gamma globulin to carry over for use in the year 1954.

Progress Report on National Blood Program: The House of Delegates in the June, 1953, session adopted a Resolution on Blood Banking which urged "the establishment of a coordinated national blood bank program organized by the American Medical Association, the American National Red Cross and other qualified organizations interested in blood banking in so far as may be appropriate. . . ." The House also approved a request of the Committee on Blood that the committee be authorized to take part in conferences on a national blood program with the interested agencies.

Pursuant to these instructions, four meetings were arranged. The first, on July 25, 1953, in Chicago with representatives from the American National Red Cross, developed broad general areas of agreement on the necessity for a coordinated national blood program and an agreement that other professional organizations should be included in further conversations.

At the second meeting, in Washington on Sept. 9, the American Hospital Association, the American Association of Blood Banks, and the American Society of Clinical Pathologists were invited to attend. Each organization was represented by two appointees and the American National Red Cross and the American Medical Association by four appointees, with the chairman of the Committee on Blood presiding.

Representatives of all the organizations present expressed the belief that a voluntary national organization with representation from all agencies interested in blood collection, preservation, and distribution was desirable. In order to present some concrete recommendations to each organization's policy making bodies, the representatives at this meeting requested the chairman to appoint a steering committee of five members representing all the organizations present for the purpose of formulating a general plan of organization on the following basis: (1) to coordinate activities of member groups; (2) to recommend pertinent policy to constituent members on the national level; and (3) to explore further fields of activity into which the program should advisedly enter.

The steering committee was instructed to have this plan of organization ready for presentation to the joint committee on Nov. 13, in Washington. The steering committee met in Chicago on Oct. 21, and devised an organizational plan which was further discussed and amended by the representatives of the aforementioned agencies in the Nov. 13 meeting. As none of the representatives could pledge their organization's support of the plan, it was agreed that the plan should be submitted to each organization's policy making bodies for ratification, modification, or rejection. A copy of the plan of organization of the National Blood Foundation has been distributed to each member of the House of Delegates for purposes of information.

The board of governors of the American National Red Cross on Nov. 16, 1953, adopted the following resolution after considering the contemplated plan of organization of the National Blood Foundation:

> That the Board of Governors approve in principle the formation of an organization comprised of representatives from agencies interested in activities related to the collection, processing, and use of blood and its derivatives, with the understanding that the purpose of this organization shall be to establish a national blood program with a principal objective of assuring an adequate supply of blood and blood derivatives for civilian and military use in time of peace and for emergency without charge for the product itself. It is further recommended that the president or his designee be authorized to commit funds of the Red Cross on a cooperative basis with the American Medical Association and to the extent necessary during the next three years to effect and sustain such an organization and that the staff be directed to continue to plan with the other interested agencies with a view toward the development of a comprehensive plan to be submitted to the Board of Governors for subsequent action.

Since the plan of organization of the National Blood Foundation requires the assumption of certain financial obligations on the part of the American Medical Association, the Committee on Blood has presented the plan to the Board of Trustees for its consideration and for its recommendations to the House of Delegates.

Supplementary Report of Board of Trustees

Dr. L. W. Larson, Trustee, presented the following supplementary report, which also was referred to the Reference Committee on Miscellaneous Business:

O. Progress Report on the National Blood Program

In reviewing the plan of organization of the proposed National Blood Foundation, referred to the Board of Trustees by the Committee on Blood, the Board felt that approval in principle of the establishment of a national blood program has already been achieved by approval of the Resolution on Blood Banking at the June, 1953, meeting of the House of Delegates.

The Board of Trustees has not had complete opportunity to evaluate the financial and legal obligations to be assumed by the American Medical Association in the proposed organization. For the reasons stated, the Board of Trustees recommends that the Committee on Blood be instructed to continue its efforts, in cooperation with the other interested agencies, toward the development of an organization which will command the endorsement and support of the agencies concerned and incorporate the sound principles already enunciated by the House of Delegates.

Report of Reference Committee on Miscellaneous Business

Dr. H. Gordon MacLean, Chairman, submitted the following report, which was adopted.

Report of Committee on Blood and Supplementary Report of Board of Trustees on the Progress Report on the National Blood Program: Your committee reviewed with interest the report of the Committee on Blood and viewed with satisfaction its continued attempts to develop a comprehensive plan on a nationwide basis. In the supplementary report concerning the organization of the proposed "National Blood Foundation," the Board of Trustees felt that approval in principle of the establishment of a national blood program has already been achieved by the approval of the Resolution on Blood Banking at the June, 1953, meeting of the House of Delegates, which reverts to the Ludwig resolution. The Board of Trustees stated in this report that it had not had complete opportunity to evaluate the financial and legal obligations to be assumed by the American Medical Association in the proposed organization. For the reasons stated, the Board of Trustees recommended that the Committee on Blood be instructed to continue its efforts, in cooperation with other interested agencies, toward the development of an organization which will command the endorsement and support of the agencies concerned and incorporate the sound principles already enunciated by the House of Delegates.

Your committee approves the report of the Committee on Blood and the recommendations of the Board of Trustees in its supplementary report.

Introduction of Secretary of Southern Medical Association Mr. C. P. Loranz

The Speaker introduced to the House of Delegates Mr. C. P. Loranz, Secretary of the Southern Medical Association for more than 40 years.

New Business

The Speaker announced a new procedure for the presentation of resolutions, as follows:

Instead of having a roll call by states, as we have had in the past for the introduction of resolutions, in order to make your work easier, the resolutions have been numbered. You will notice that in the supplementary reports of the Board of Trustees letters were used. The resolutions are designated by number. I am going to ask the introducers of resolutions please to keep track of the numbers, and I am going to ask Nos. 1, 2, 3, 4, and 5 to come up here and sit at the table. No. 1 will be the first to be called, and, as each man moves up, another one will come up, so that we shall keep these five chairs filled at all times. If you have a resolution to be introduced, you will know when you are going to be called by the number that is on your resolution.

No. 1. Resolutions on Ethical Advertising

Dr. Frank J. Holroyd, West Virginia, presented the following resolutions, which were referred to the Reference Committee on Hygiene and Public Health:

The following resolution was unanimously adopted by the House of Delegates of the West Virginia State Medical Association at the second session held at the Greenbrier, White Sulphur Springs, July 24, 1953:

> Whereas, The advertising of therapeutic agents in the official journals of the American Medical Association and the promotion of Council-approved medications by this and all other means are of incalculable importance in influencing their use by medical practitioners; and
>
> Whereas, The advertising in many other journals, national and state, takes its tone from the official journals of the American Medical Association; and
>
> Whereas, Claims as to therapeutic advantages and disadvantages can be so devised as to give a total impression different from that which is justified; therefore be it
>
> *Resolved*, That the West Virginia State Medical Association urges the House of Delegates and the Board of Trustees of the American Medical Association to give consideration to measures which will insure complete conformity of all therapeutic claims with those recognized by the appropriate official authorities of the American Medical Association, and further, that steps be taken to strengthen the facilities for the detection and evaluation of all toxic reactions to therapeutic agents; and be it further
>
> *Resolved*, That the delegates of the West Virginia State Medical Association are hereby instructed to introduce this resolution to the House of Delegates at the Clinical Meeting in St. Louis in December, 1953.

Report of Reference Committee on Hygiene and Public Health

The Reference Committee on Hygiene and Public Health included its action with respect to the foregoing Resolutions on Ethical Advertising in its report on Supplementary Report of the Board of Trustees G. This will be found on page 1539 of this issue of THE JOURNAL.

No. 2. Resolutions on Principles of Medical Ethics

Dr. George Braunlich, Iowa, introduced the following resolutions which were referred to the Reference Committee on Miscellaneous Business:

WHEREAS, The prime objective of the medical profession is to render service to humanity, with reward or financial gain a subordinate consideration; yet

WHEREAS, The matter of fees, collections, and statements must be covered; and

WHEREAS, The decision as to the ethical or unethical nature of practice must be based on the ultimate effect for good or ill on the patient as an individual and the public as a whole; and

WHEREAS, With the increasing development of medical knowledge and the increasing specialization of medical skill, it has become more and more frequently necessary for two or more physicians to participate in the care of a patient; and

WHEREAS, It is also a known fact that for the welfare of the patient, two or more doctors must be present at surgery in the event of the disability of any one of them during the operation or in an emergency, and this is a requirement in many hospitals' rules and regulations; and

WHEREAS, In many communities in Iowa, it has been common practice for the general practitioner or family physician and/or another physician to participate in the medical and surgical care of the patient, the family or patient in many instances requesting the family physician to be present at surgery and to assist in the care of the patient; and

WHEREAS, It has been accepted and approved by the community as a community practice conveying definite benefits to the community, and the procedure has received community approval as being in the best interest of the patient; and

WHEREAS, The above practice is generally recognized throughout the State of Iowa in both large and small communities; and

WHEREAS, The patients and the public have accepted and approved the joint activities of doctors of medicine on individual cases, in cases involving surgery, or in cases involving diagnosis and treatment only, all to the benefit of the patient; and

WHEREAS, In many communities there have been joint activities by doctors of medicine and one bill rendered therefor with the consent of the patient; and

WHEREAS, Physicians and surgeons have, in their activities of rendering joint services to the patient with the patient's consent, collected the fee on one statement and have thereby fulfilled their plain and palpable duty to their fellow men and have had due regard to all of the circumstances of each particular situation and relations; and

WHEREAS, In many instances patients have expressed their own desire for one bill, the payment of the bill at one place, and so by custom made the practice an accepted one in many communities; and

WHEREAS, Public policy is the community common sense and common conscience extended and applied throughout the state to matters of public morals, public health, public safety, public welfare, and the like; now therefore be it

Resolved, That when two or more doctors actually and in person render service to one patient, each physician may, if he so desires, render to the patient an individual bill for his individual services or the doctors may submit one statement to the patient for the services rendered, and it should be made clear to the patient or his legal representative that this fee is to be divided in proportion to the services rendered, and the statement shall show the names of the doctors and respective amounts to be paid each doctor. The patient's consent, either expressed or implied, should be obtained. The fees may be paid in their entirety to either physician by the patient, and the one receiving payment shall forward the other his fee. Under no circumstances shall it be considered ethical for doctors to submit joint bills unless both have actually rendered service. Division of fees for referrals only shall be considered unethical; and be it further

Resolved, That in legal partnerships of doctors, or clinics of doctors, or where doctors have joined together in the practice of medicine, and so hold themselves out to the public and patients, where all income and expenses are a joint account or joint venture, it is ethical and legal for the members of the group to confer and care for a patient and to render one bill to the patient, and the income shall be divided in accordance with their contract basis or salary or percentage arrangement.

Report of Reference Committee on Miscellaneous Business

Dr. H. Gordon MacLean, Chairman, presented the following report, which was adopted:

Resolution No. 2 on the Principles of Medical Ethics: Those resolutions were passed by the house of delegates of the Iowa State Medical Society in June, 1953. After thorough discussion of the problems involved concerning the billing of patients, your committee feels that it is unable to render a decision because the final interpretation of ethics is within the province of the Judicial Council. We note in the minutes of the House of Delegates at its December, 1952, meeting in Denver that the Judicial Council rendered an opinion on an almost identical question. On page 1706 of THE JOURNAL in the Dec. 27, 1952, issue is found this statement: "That when a surgeon renders his bill for his fee, it should not includ bills from colleagues who act as assistants or anesthetist but these colleagues should render their own bills."

Your committee recommends that these resolutions be referred to the Judicial Council requesting that the Council investigate the factors involved in the matters as presented an determine if there are new factors or new facets that woul cause it to change the opinion of 1952 quoted above. In addition we recommend that the Judicial Council be specificall requested to report on this request at the June 1954 annu meeting. We further recommend that this action be approve by the House of Delegates.

No. 3. Resolution on Chiropractic and Naturopathic Education

Dr. J. Paul Jones, Alabama, introduced the following res lution, which was referred to the Reference Committee o Hygiene and Public Health:

WHEREAS, The medical profession is morally, and in some instanc legally, obligated to protect the public against irregular practitioners all types; and

WHEREAS, Chiropractors and naturopaths are constantly trying to clo themselves with unwarranted status by means of legislative action; and

WHEREAS, Although we know the basic tenets of both chiropractic a naturopathy to be without scientific basis, the argument most readi understandable to a legislator seems to lie within the lack of prop training received in chiropractic or naturopathic schools; and

WHEREAS, When appearing before a legislative committee for the purpo of a hearing, we do not have and therefore cannot use concrete eviden regarding the quality of training received in either chiropractic naturopathic schools; and

WHEREAS, This situation resolves itself into the word of one gro against that of another, which in turn makes our strongest point—the la of proper training—the weakest link in our argument; therefore be it

Resolved, That the American Medical Association, through its prop council, institute means and procure accurate and concrete evidence the quantity and quality of training received in chiropractic a naturopathic schools; and be it further

Resolved, That the American Medical Association make this informati available to the constituent state associations not later than Jan. 1, 1955.

Report of Reference Committee on Hygiene and Public Health

Dr. Thurman B. Givan, New York, Chairman, present the following report, which was adopted:

Res. No. 3 on Chiropractic and Naturopathic Educatio Your committee approves this resolution and recommends th the American Medical Association, through its Board of Tru tees, by means of a proper council or an outside agency, i stitute methods and procure accurate and concrete eviden on the quantity and quality of training received in chiropract and naturopathic schools, and it is further recommended th the American Medical Association make this informatio available to the constituent state associations at the earlie possible date.

No. 4. Resolution on Use of Term Rehabilitation

Dr. Edward L. Compere, Section on Orthopedic Surger introduced the following resolutions, Nos. 4, 5, 6, and 6- all of which were referred to the Reference Committee o Sections and Section Work:

WHEREAS, Rehabilitation is the concern not alone of one group physicians but rather the concern of physicians in every branch of med cine, the present tendency for one group of physicians to arrogate t term "rehabilitation" unto themselves cannot be justified; and

WHEREAS, Orthopedic surgery is particularly concerned with this matt and from its inception as a specialty has always had the rehabilitation the physically disabled as one of its primary activities and has contribut and is contributing much to the development of this field; and

WHEREAS, The term "rehabilitation" has been appended to the title one of the official councils, the council designated as the Council o Physical Medicine and Rehabilitation; to one of the scientific sections, th Section on Physical Medicine and Rehabilitation; and to a specialty boar the American Board of Physical Medicine and Rehabilitation; and

WHEREAS, It is our firm belief and conviction that such use of thi term is inappropriate and misleading and causes confusion in the mind of the medical profession and the public at large; therefore be it

Resolved, That the House of Delegates advise the Council on Physica Medicine and Rehabilitation, the Section on Physical Medicine and Re habilitation, and the American Board of Physical Medicine and Rehabili tation that it would be desirable and appropriate to discontinue the u of the term "rehabilitation" in the title.

No. 5. Resolution on Advisory Committee to Council on Medical Education and Hospitals

WHEREAS, We believe that it is inappropriate for a subcommittee from the Council on Physical Medicine and Rehabilitation to serve in an advisory capacity to the Council on Medical Education and Hospitals regarding the educational standards of schools of physical therapy and occupational therapy, because the training of these technicians involves the services of many other fields of medicine, and advisory committees should consist of a much broader group; and

WHEREAS, Physical therapy and occupational therapy were developed with the encouragement and under the auspices of orthopedic surgery; and

WHEREAS, The education of physical therapy technicians and occupational therapists from the beginning was guided by orthopedic surgeons; and

WHEREAS, It is only proper that orthopedic surgery should continue as a participant in maintaining the standards of education and the rules of activity of physical therapy and occupational therapy; therefore be it

Resolved, That this advisory committee to the Council on Medical Education and Hospitals be selected from nominees submitted by the executive committees of the Sections on Physical Medicine, Orthopedic Surgery, Nervous and Mental Diseases, General Practice, and other sections which are concerned with the question of the training and education of lay technicians.

No. 6. Resolution on Change in Name of Council on Physical Medicine and Rehabilitation

WHEREAS, We do unanimously hold that it is not advisable to designate a council which was created for the purpose of evaluating and making recommendations regarding medical equipment and apparatus as the Council on Physical Medicine, with or without the term "Rehabilitation" being appended; therefore be it

Resolved, That the House of Delegates recommend to the Council on Physical Medicine and Rehabilitation that the name be changed to one more appropriate to the duties of that Council.

No. 6-A. Joint Resolutions from the Executive Committees of the Sections on Orthopedic Surgery, and Physical Medicine and Rehabilitation

WHEREAS, Certain resolutions have been introduced in the House of Delegates from the Section on Orthopedic Surgery relative to the deletion of the term "Rehabilitation" from the Board, Section, and Council on Physical Medicine and Rehabilitation; and

WHEREAS, At a meeting of a committee of the Board of Trustees with committees representing the Sections on Orthopedic Surgery, and Physical Medicine and Rehabilitation, and the Council on Medical Education and Hospitals, it was agreed that many basic principles are involved in the above-mentioned resolutions; therefore be it

Resolved, That action on the three resolutions from the Section on Orthopedic Surgery be deferred until the June, 1954, meeting of the House of Delegates of the American Medical Association; and be it further

Resolved, That the Board of Trustees of the American Medical Association be requested to appoint a committee composed of representatives of the various specialties most directly concerned with rehabilitation and, if deemed advisable, representatives of the Board of Trustees, to study the issues which have been raised, and to report to the House of Delegates in June, 1954, with recommendations relative to the following questions:

1. Should the Council on Physical Medicine and Rehabilitation be reorganized and renamed to indicate more clearly a primary function having to do with the investigation, standardization, and certification of medical equipment, apparatus, and materials?
2. Should another council be formed properly representative of the various branches of medicine which are concerned with rehabilitation, such council to be named, "The Council on Rehabilitation"?
3. Should the Section on Physical Medicine and Rehabilitation be renamed the "Section on Physical Medicine"?
4. Should the American Board of Physical Medicine and Rehabilitation be renamed?

Report of Reference Committee on Sections and Section Work

Dr. Jesse D. Hamer, Chairman, presented the following report, which was adopted:

Three resolutions, Nos. 4, 5, and 6, were introduced by Dr. Edward L. Compere, delegate of the Section on Orthopedic Surgery, and were before your committee for its consideration, as well as No. 6-A, a Joint Resolution from the Executive Committee of the Section on Orthopedic Surgery and the Section on Physical Medicine and Rehabilitation, which was introduced conjointly by Dr. Edward L. Compere, Section on Orthopedic Surgery, and Dr. Frank H. Krusen, Section on Physical Medicine and Rehabilitation.

Your reference committee, after due consideration of all the remarks made before it by representatives of these two sections, feels that the adoption by this House of Resolution No. 6-A would be the proper procedure in this instance. It would therefore recommend that Resolutions Nos. 4, 5, and 6 be tabled and that the content of Resolution No. 6-A be adopted.

No. 7. Resolutions on Improvement of Existing Voluntary Prepayment Medical Care Plans

Dr. W. W. Baum, for the Oregon State Medical Society, introduced the following resolutions, which were referred to the Reference Committee on Insurance and Medical Service:

WHEREAS, The American Medical Association and the physicians of the United States have strongly advocated voluntary health insurance; and

WHEREAS, This places on them a responsibility to make every effort to promote such prepaid medical coverage for all citizens whose circumstances make them eligible; and

WHEREAS, There are two large groups of citizens for whom improved coverage could be offered under present prepaid medical care plans, namely: (*a*) those individuals who suffer catastrophic or long-continued and highly expensive illness and whose financial resources are not adequate to meet the cost thereof and (*b*) those citizens who have retired and are living on small incomes and who are not eligible under presently existing public or private plans; and

WHEREAS, The Council on Medical Service of the American Medical Association is charged with the responsibility for investigations and recommendations in the field of prepaid medical care; therefore be it

Resolved, That this House of Delegates commend the Council on Medical Service for the excellent work it has done in this field in the past; and, as evidence of our continued confidence in its ability; be it further

Resolved, That this House of Delegates request the Council on Medical Service to proceed immediately with a special study of the two problems mentioned above and to present its findings and recommendations to the House of Delegates not later than the 1954 Clinical Meeting; and be it further

Resolved, That these findings and recommendations of the Council on Medical Service be published in some convenient form and made available not only to the medical profession but also to nonmedical groups or individuals working in the field of prepaid medical care.

Report of Reference Committee on Insurance and Medical Service

The report of the reference committee on Resolution No. 7 is contained in the next to the last paragraph of the committee's report on the report of the Council on Medical Service on page 1548 of this issue of THE JOURNAL.

No. 8. Resolutions on Dr. Elmer Lee Henderson

Dr. Clark Bailey, for the Kentucky delegation, introduced the following resolutions, which were adopted by a unanimous rising vote, without referral:

WHEREAS, In the passing of Dr. Elmer Lee Henderson of Louisville, Ky., on July 30, 1953, the nation lost one of its most honored citizens, and the people and medical profession of the world suffered an irreparable loss; and

WHEREAS, Dr. Henderson, one of medicine's most astute and effective statesmen, brought dignity, courage, and clear vision to his distinguished service as President of the Jefferson County Medical Society, the Kentucky State Medical Association, The Southern Medical Association, the American Medical Association, the World Medical Association, and the American Medical Education Foundation, as well as to his numerous other civic and professional activities; and

WHEREAS, Dr. Henderson, through his vigorous devotion to the cause of freedom in all phases of American life, provided long and continuous leadership, which immeasurably helped the people reaffirm their dedication to America's principles of liberty; now therefore be it

Resolved, That the House of Delegates of the American Medical Association gratefully acknowledge and affirm its deep appreciation for Dr. Henderson's unsparing work as physician, citizen, and medical leader, and his everlasting gifts to his fellow man; and be it further

Resolved, That the resolution of the House of Delegates of the American Medical Association be made a part of its permanent record and that a copy be sent to Mrs. Laura Henderson of Louisville, Ky., the bereaved widow, assuring her of our most sincere sympathy in the great loss that the entire medical profession all over the nation shares with her.

No. 9. Resolution on Unethical Practices

Dr. John F. Burton, Oklahoma, presented the following resolution, which was referred to the Reference Committee on Miscellaneous Business:

WHEREAS, Published statements of certain medical spokesmen concerning alleged unethical practices by members of the medical profession have tended to destroy the confidence of patients in their physicians, without solving the basic problems involved; and

WHEREAS, The American Medical Association has received requests calling for action to counteract this type of publicity; and

WHEREAS, This House of Delegates recognizes that the members of the American Medical Association look to the association to take steps leading to the elimination of publicity inimical to best physician-patient relationships, and to take steps to assure the highest quality of medical service; and

WHEREAS, This House of Delegates believes it necessary to determine the facts in reference to these published accusations; therefore be it

Resolved, That this House of Delegates direct the Speaker of the House of Delegates to appoint a special committee with broad representation throughout the profession whose function it shall be: (1) To study all aspects of the problems of public relations created by recent adverse publicity; (2) To study the problems of professional interrelationships such as are alleged in this publicity, particularly as they affect the quality and cost of medical care, utilizing whatever techniques are necessary to obtain factual information thereon; and (3) To report findings and submit recommendations for the solution of the above problems to the House of Delegates in June, 1954.

Report of Reference Committee on Miscellaneous Business

Dr. H. Gordon MacLean, Chairman, submitted the following report, which was adopted:

Res. No. 9 on Ethical Practices: This resolution has to do with published statements of certain medical spokesmen concerning alleged unethical practices by members of the medical profession which have tended to destroy the confidence of patients in their physicians without solving the basic problems involved. Your committee recognizes that the members of the American Medical Association look to the Association to take steps leading to the elimination of publicity inimical to the best physician-patient relationships and to take steps to assure the highest of medical service, and that it is also necessary to determine the facts in reference to these published accusations. In consultation with officers of the American Medical Association, your committee was informed that this study is already being undertaken. Your committee approves the intent of this resolution but believes that it would be difficult to implement as suggested in the "Resolved" portion. Therefore, your committee *recommends that this resolution be referred to the* Board of Trustees for further study and implementation, and directs the Board to appoint a special committee with broad representation throughout the profession to carry out the purposes of the resolution.

No. 10. Resolution on Social Security

Dr. Willard A. Wright, North Dakota, introduced the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

Whereas, Legislation has been introduced into the Congress providing for the extension of compulsory coverage under Title II of the Social Security Act to self-employed persons, including physicians; and

Whereas, The House of Delegates has in the past registered its disapproval of the principle involved in this legislation; and

Whereas, Physicians desire the continued right to establish retirement benefits for themselves on a voluntary basis rather than being compelled to participate in a tax-supported government program which they do not want; and

Whereas, The Jenkins-Keogh bills (H.R. 10 and H.R. 11) now before the Congress provide for development of a voluntary pension program which is equitable, free from compulsion, and satisfies the retirement needs of physicians; therefore be it

Resolved, That this House of Delegates reaffirm its support and endorsement of the voluntary pension program provided in the Jenkins-Keogh bills and its strong opposition to the extension of compulsory coverage of physicians under Title II of the Social Security Act.

Report of Reference Committee on Legislation and Public Relations

The report of the reference committee on Resolution No. 10 is contained in its report on the report of the Committee on Legislation on page 1535 of this issue of The Journal.

No. 11. Resolution on Improvement of Rural Health

Dr. Willard A. Wright, North Dakota, presented the following resolution, which was referred to the Reference Committee on Insurance and Medical Service:

Whereas, Over the last few years the American Medical Association, through its Council on Rural Health and the constituent and component medical societies, has promoted a program designed to improve rural health; and

Whereas, This policy has been attended with such success that the medical profession has earned a place of high esteem among America's farm leaders and people; and

Whereas, Notwithstanding these successful efforts it is now recognized that there is need for further local support of the rural health program through cooperation among agricultural, medical, civic, and lay groups; therefore be it

Resolved, That this House of Delegates urge the constituent and component medical societies to organize rural health committees composed of personnel with an interest in rural health problems and an understanding of the needs for rural medical care, and to activate a rural health program in their respective communities.

Report of Reference Committee on Insurance and Medical Service

Dr. John M. Porter, Chairman, submitted the following report, which was adopted.

Your Reference Committee on Insurance and Medical Service had referred to it two major propositions, one concerning the work of the Council on Rural Health with one resolution referring to work of that council.

The Report of the Council on Rural Health speaks for itself and should be read by all of us who practice outside the metropolitan or industrial centers. If, because of isolation and sometimes apparently radical thinking, the farmer seems to require more than his share of attention or even subsidization, certainly we must agree that no better friend of medicine or more fundamentally necessary individual exists. In the opinion of your reference committee, the work of the Council on Rural Health, with its emphasis on education and its admirable record of cooperation with farm groups, should be continued and its efforts commended.

No. 12. Resolution on Abolition of Matching Plan for Internships

Dr. Charles L. Farrell, Rhode Island, introduced the following resolution, which was referred to the Reference Committee on Medical Education and Hospitals:

Whereas, The "Matching Plan" instituted by the American Association for the apportionment of interns has frequently wc the detriment of smaller hospitals by depriving them of an adequ: cation of interns; and

Whereas, The smaller hospitals must still carry the bulk of pati and, to do so effectively, must have adequate house staffs; therefo

Resolved, By the House of Delegates of the American Medic ciation that the "matching" system of intern selection be abol

Report of Reference Committee on Medical Edu Hospitals

Dr. James Z. Appel, Chairman, submitted the report, which was adopted:

Your reference committee has received Resoluti introduced by Dr. Charles L. Farrell, Rhode Islan "Abolition of Matching Plan for Internships." Your committee enjoyed long debate by many membe Association and the comments of the representativ Student American Medical Association were very h no time during the debate was it pointed out how the plan *per se* is detrimental to the distribution of inte reference committee, therefore, recommends that th tion be rejected.

No. 13. Resolution on Listing of Accredited Ho

Dr. Charles L. Farrell, Rhode Island, presented the ing resolution, which was referred to the Reference Co on Medical Education and Hospitals:

Whereas, The Council on Medical Education and Hospitals h lished a list of Approved Internships revised to Sept. 1, 1953, tha the names and descriptions of hospitals which, though approved, ha subscribed to the Matching Plan, and then lists them supplement the general listing; and

Whereas, Such listing creates the impression that such hospita not of the same caliber or rating as the ones in the general listin

Whereas, This listing works to the disadvantage of hospitals s interns; therefore be it

Resolved, That the House of Delegates of the American Medical A ciation instruct the Council on Medical Education and Hospitals to re and republish immediately its listing to include all hospitals accredited intern training in one master list and to designate by column marking, asterisk or other device, those not subscribing to the Matching Plan.

Report of Reference Committee on Medical Education and Hospitals

Dr. James Z. Appel, Chairman, presented the following report, which was adopted:

Your reference committee received Resolution No. 13 introduced by Dr. Charles L. Farrell, Rhode Island, entitled "Listing of Accredited Hospitals by the Council on Medical Education and Hospitals."

Your reference committee recognizes that for economic reasons the Council has published a separate listing of hospitals that have subscribed to the Matching Plan and that segregation of nonmember hospitals might leave the inquiring intern and the general public to feel that such hospitals are discriminated against. Therefore, your reference committee wishes to present a substitute resolution as follows:

Resolved, That the House of Delegates of the American Medical Association instruct the Council on Medical Education and Hospitals at the appropriate time to publish a listing of all hospitals accredited for intern training in one master listing and to designate by bold face type or column marking those subscribing to the Matching Plan.

Your reference committee recommends the adoption of this substitute resolution.

No. 14. Resolution on More Equitable Distribution of Interns

Dr. Charles L. Farrell, Rhode Island, introduced the following resolution, which was referred to the Reference Committee on Medical Education and Hospitals:

Whereas, Many hospitals have offered internships out of proportion to bed capacity and clinical needs; and

Whereas, Many small hospitals accredited for internship are unable to secure sufficient interns and often secure none at all; and

Whereas, The only possible solution to this problem is a more equitable distribution of interns among accredited internships; therefore be it

Resolved, That the Council on Medical Education and Hospitals of the American Medical Association be instructed to take immediate steps to evaluate the actual needs of accredited hospitals for intern training and to develop a formula for equitable distribution that will insure interns for the smaller accredited hospitals.

Report of Reference Committee on Medical Education and Hospitals

Dr. James Z. Appel, Chairman, submitted the following report, which was adopted:

Your reference committee received Resolution No. 14 introduced by Dr. Charles L. Farrell, Rhode Island, entitled "More Equitable Distribution of Interns."

At the New York meeting of the House of Delegates in June, 1953, five resolutions on interns were considered by the Reference Committee on Medical Education and Hospitals. One of these resolutions was essentially the same as Resolution No. 14. Your House of Delegates approved a recommendation that a further study be made by a committee appointed by the Speaker of the House of Delegates, at least half of whom are doctors in private practice of medicine not connected with medical schools or affiliated hospitals. Furthermore, the Council on Medical Education and Hospitals has indicated in its report it is most willing and anxious to cooperate with this special committee. Your committee believes this special committee's charge will cover the content of Resolution No. 14 and therefore recommends that no action be taken at this time.

No. 15. Resolutions on Death of Dr. Frank Kells Boland

Dr. Eustace A. Allen, Georgia, introduced the following resolutions, which were adopted by a unanimous rising vote, without referral:

Whereas, Frank Kells Boland, a leading figure in the field of surgery for half a century, died Nov. 11. He was nationally known for his research in the history of anesthesia. It was through his efforts that Dr. Crawford W. Long was recognized as the discoverer of ether and anesthesia. He was the author of the book "The First Anesthetic," published in 1950; and

Whereas, He was interested in the history of medicine in Georgia and was also author of a book on the subject. He was a past president of the Atlanta Historical Society and was a member of numerous civic and fraternal organizations. He was a great leader in medical and surgical societies, having served as president of county, state, and medical alumni organizations and was also southeastern governor of the American College of Surgeons; and

Whereas, In the passing of this great medical leader, teacher of surgery, Georgia, the South, and the nation have lost one of its outstanding citizens. Dr. Boland, until the last, was always ready to serve his patients and all who called upon him for help. He never turned down a patient's call, and it is truly said that the spirit of service self-exemplified the man whose death will be mourned by all who knew him; therefore be it

Resolved, That the House of Delegates of the American Medical Association wishes to express its feeling of an irreplaceable loss in the death of Dr. Frank Kells Boland on Nov. 11, 1953; and be it further

Resolved, That a copy of these resolutions be forwarded to the family of our deceased friend.

No. 16. Resolution on Commission on *Intergovernmental Relations*

Dr. Vincent W. Archer, Virginia, introduced the following resolution, which was referred to the Reference Committee on Miscellaneous Business:

Whereas, The President of the United States, under authority of the Congress, has appointed a Commission on Intergovernmental Relations, now known as the Manion Commission; and

Whereas, This commission has been charged with the responsibility of making inquiry into federal-state relations in reference to grants-in-aid and appropriations to states on a matching basis; and

Whereas, This inquiry will be concerned with the present status of such appropriations, the present and possible future needs and administrative set-ups as they now exist or should exist; therefore be it

Resolved, That the administrative body of each state and territorial medical society take immediate steps to contact the chairman of the commission in order to determine in what way the state society and appropriate state agencies can cooperate with the commission in aiding in the accomplishment of its purpose.

Report of Reference Committee on Miscellaneous Business

Dr. H. Gordon MacLean, Chairman, presented the following report, which was adopted:

Res. No. 16 on Commission on Intergovernmental Relations: Your committee approves the resolution that the administrative body of each state and territorial medical association take immediate steps to contact the chairman of the commission in order to determine in what way the state medical society and appropriate state agencies can cooperate with the Commission in aiding in the accomplishment of its purpose.

No. 17. Resolution on Veterans Care and Medical Training

Dr. John F. Burton, Oklahoma, introduced the following resolution, which was referred to the Reference Committee on Medical Education and Hospitals:

Whereas, There is a variance of opinion regarding the requirements of the bed ratio to student personnel for an approved school of medicine; and

Whereas, There are differences of opinion in regard to the question of rendering medical care and bedside teaching of medicine; therefore be it

Resolved, That the American Medical Association Board of Trustees, acting through the Council on Medical Education and Hospitals, initiate plans to solve these differences by: (1) establishing a bed ratio per student based upon the student personnel of the last two years of medicine, and (2) acting through the deans' committees, regulate medical attention rendered to veterans in Veterans Administration hospitals for teaching purposes by limiting to those cases of service-connected origin only.

Report of Reference Committee on Medical Education and Hospitals

Dr. James Z. Appel, Chairman, presented the following report, which was adopted:

Your reference committee received Resolution No. 17, introduced by John F. Burton, Oklahoma, entitled "Veterans Care and Medical Training."

It was pointed out to your reference committee that the teaching load ratio is a better method of measuring the number of patients per student than a bed ratio per student as advocated in this resolution. Your reference committee recommends that this portion of the resolution be rejected.

Your reference committee is in agreement with the American Medical Association policy that veterans care should be limited to those of service-connected origin with the exception of some specific cases. Your reference committee is also cognizant that it is the duty of physicians to render medical care whenever needed, and, so long as it is law and the administrative policy of the Veterans Administration to function along this line, it is necessary that the present program for medical students, interns, and residents in Veterans Administration hospitals be continued. Your reference committee therefore recommends that this portion of the resolution be rejected.

No. 17-A. Resolutions on the Late Dr. Edward D. Spalding

Dr. Robert L. Novy, Michigan, introduced the following resolutions, which were adopted by a unanimous rising vote, without referral:

Whereas, Dr. Edward D. Spalding, first alternate delegate representing the Michigan State Medical Society to the American Medical Association House of Delegates, was shot and killed as he departed from his office in Detroit to attend this Clinical Meeting of the American Medical Association; and

Whereas, At past sessions of this House, Dr. Spalding always was inspiring in his earnestness, in his energy, and in his brilliant mental capacity when attending to the duties assigned to him by the Michigan delegation to the American Medical Association House of Delegates; and

Whereas, Dr. Spalding, as an active practitioner of medicine, was a brilliant clinician as well as a militant leader in his espousal of private practice as opposed to compulsory schemes inimical to patients' welfare; therefore be it

Resolved, That the American Medical Association House of Delegates in session in St. Louis, Dec. 1-4, 1953, express its deep sense of loss in the tragic and abrupt passing of Dr. Edward D. Spalding and bespeaks its sincere sympathy to his bereaved survivors; and be it further

Resolved, That a copy of this resolution be prepared and be forwarded to Mrs. Spalding and to the Spalding family.

(Concluded in next issue.)

MEDICAL NEWS

CALIFORNIA

Research on Air Pollution.—A $78,084 grant has been made by the U. S. Public Health Service to the University of Southern California School of Medicine in Los Angeles to finance research on the effects of air pollution. Awarding of the research contract was announced on the 25th anniversary of the Southern California medical school, which was observed Sept. 24-25. Dr. Paul Kotin, Dr. Hurley Motley, John W. Mehl, Ph.D., and Hans Falk, Ph.D., will conduct the study.

Conference in Ophthalmology.—Stanford University School of Medicine, San Francisco, will present the annual postgraduate conference in ophthalmology, March 22-26, 1954. Registration will be open to 30 physicians who limit their practice to the treatment of diseases of the eye or of the eye, ear, nose, and throat. Instructors will be Drs. A. Edward Maumenee, Dohrmann K. Pischel, Jerome W. Bettman, Max Fine, Earle H. McBain, and Arthur J. Jampolsky. Information may be obtained from the Office of the Dean, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15.

Internists Meeting in Yosemite.—At the annual meeting in Yosemite National Park the California Society of Internal Medicine elected Dr. Walter Beckh, San Francisco, president, Dr. Paul I. Hoagland Jr., Pasadena, vice-president, and Dr. James H. Thompson, San Francisco, secretary-treasurer. The principal speaker, Homer W. Smith, Sc.D., professor of physiology, New York University College of Medicine, New York, discussed renal physiology, emphasizing "Salt and Water Balance." Other papers included "Acute Renal Failure—The Conservative Medical Management of Oliguria and Anuria" by Dr. James Hopper Jr. of the University of California Medical School, San Francisco, and "Acute Renal Failure—The Use of the Artificial Kidney" by Dr. Robert F. Maronde of the University of Southern California School of Medicine in Los Angeles. A medical economic forum was held to discuss the position of internists in the present day "surgical type" fee schedule.

COLORADO

State Medical Election.—At the annual meeting in Denver the Colorado State Medical Society chose the following officers: president, Dr. Claude D. Bonham, Boulder; president-elect, Dr. Samuel P. Newman, Denver; vice-president, Dr. Lawrence D. Buchanan, Wray; constitutional secretary (3 years), Dr. Irvin E. Hendryson, Denver; treasurer (3 years), Dr. Frank I. Nicks, Colorado Springs. The society will hold its next midwinter clinic at the Shirley-Savoy Hotel, Denver, Feb. 16-19, 1954, and the next annual session at the Broadmoor Hotel, Colorado Springs, Sept. 21-24.

Personal.—Dr. George W. Stiles, special research consultant, laboratory section, Colorado State Department of Public Health, Denver, has retired. Dr. Stiles came to the department in 1947 from the Bureau of Animal Industries.——Dr. Atha Thomas, chief of orthopedic surgery, University of Colorado School of Medicine, Denver, has been named chief of orthopedic service at National Jewish Hospital, which he has served as consultant orthopedic surgeon for many years.——Dr. Ruth Boring Howard, who has been acting chief of the hospitals standards and consultation section, Colorado State Department of Public Health, Denver, has been appointed chief of the maternal and child health section to replace Dr. Charles H. Dowding, who has accepted a position as deputy superintendent, maternal and child health, in the Milwaukee City Health Department.

CONNECTICUT

Flight Surgeons Needed.—Chief Flight Surgeon William B. Smith of the Connecticut Department of Aeronautics announces that he needs Air Force or Navy-trained flight surgeons for his examining staff in several parts of the state. Address all communications to Dr. William B. Smith, Chief Flight Surgeon, Connecticut Department of Aeronautics, Brainard Field, Hartford.

ILLINOIS

Psychiatric Lectures.—In its series on treatment in psychiatry, the North Shore Health Resort (225 Sheridan Road, Winnetka) offers the lecture "The Role of a Psychiatrist in a Hospital" by Dr. Howard P. Rome, Mayo Clinic, Rochester, Minn., who will speak Jan. 6, 1954, 8 p. m., at the health resort.

Edgar County Celebrates 50th Anniversary.—The Edgar County Medical Society marked its 50th anniversary Nov. 5 at a banquet given at the Elks' Club in Paris by the society and the women's auxiliary. The honored guest was Dr. Francis M. Link, Paris, the only living charter member. Dr. Paul E. Fleener, president of the society, presided.

Chicago

Personal.—Dr. Samuel M. Feinberg, professor of medicine and director of the Allergy Research Laboratory, Northwestern University Medical School, discussed "Allergy to Chemotherapy" at Coronado, Calif., Dec. 9, in the symposium "Acute Infectious Diseases" sponsored by the California Academy of General Practice and the Lederle Laboratories.

Course in Electrocardiographic Interpretation.—A course in electrocardiographic interpretation for graduate physicians will be given at Michael Reese Hospital by Dr. Louis N. Katz director of the cardiovascular department, Medical Research Institute, and associates, each Wednesday, 7-9 p. m. for 12 weeks, beginning Feb. 3, 1954. Information may be obtained on application to Mrs. Rivian H. Lewin, Cardiovascular Department, Michael Reese Hospital, Chicago 16.

Hospital News.—Dr. Karl A. Meyer, medical superintendent of Cook County institutions, announces the following appointments at Cook County Hospital: Dr. George C. Blaha medical director, Dr. Samuel Hyman, assistant medical superintendent, and Dr. Sinclair Howard Armstrong Jr., director of medical education. Dr. Armstrong, who is professor of medicine at the University of Illinois College of Medicine will also serve in an advisory capacity at the Hektoen Institute for Medical Research of the Cook County Hospital——A 27 million dollar slum redevelopment program involving 54 acres surrounding Michael Reese Hospital was recently approved by the Land Clearance Commission. The land will be cleared by the commission and sold to private interests for hospital expansion and rental housing purposes Dr. Morris H. Kreeger, executive director of the hospital, has announced (1) an immediate 6 million dollar program to build a 112-bed medical service building, 40-bed convalescent center central heating plant and new serum center and (2) an additional 4 million dollar program, to be completed in 10 years, which will include laboratory and research buildings, a center for studying the problems of the aging, and new nurses' and interns' residences.

IOWA

Public Medical Forums.—The Scott County Medical Society in cooperation with the Davenport Newspapers, Incorporated, held free physicians' public forums, Oct. 29, Nov. 3 and 19, and Dec. 3. Questions, submitted by the public and answered by a panel of physicians, concerned high and low blood pressure, weight, cancer, and rheumatic fever and rheumatic

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Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

heart disease. There was an average attendance of about 800. Dr. Harry B. Weinberg, Davenport, was general chairman of the project.

Personal.—Dr. Grace M. Sawyer, superintendent of the Woodward State Hospital and School, was honored at a reception given by the employees, at which Dr. Ben T. Whitaker, Boone, past president of the Iowa State Medical Society, gave greetings for that organization and Dr. Frank A. Wilke, Perry, spoke in behalf of the Dallas-Guthrie Medical Society. Dr. Sawyer came to the hospital and school in 1923, went into private practice in Woodward in 1935, and in 1938 returned to the hospital as assistant superintendent, being appointed acting superintendent in 1951 and superintendent last July.

MARYLAND

Dr. Friedenwald Honored.—Dr. Edgar B. Friedenwald, professor of clinical pediatrics, emeritus, University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, received a testimonial at the annual pediatric symposium, which read in part: "We, his friends, colleagues and former students hereby honor him, in appreciation of his loyal and faithful service to all children; to Mercy Hospital Pediatrics; and to the medical school."

Dr. Peabody Relinquishes Chief Consultant's Duties.—Dr. J. Winthrop Peabody, chief visiting consultant, Glenn Dale Sanatorium, Washington, D. C., since 1939, recently terminated his services in that capacity in order to devote more time to private practice and to organizational activities. As a consultant, he will visit Glenn Dale once a week for chest conferences. Dr. Peabody was at one time superintendent of the sanatorium. A member of the faculty of Georgetown University School of Medicine, Washington, D. C., since 1921, he is presently professor of diseases of the respiratory system. He is a member of the Founders' Group of the American College of Chest Physicians, which he has served as president (1942-1944) and chairman of the Council on Postgraduate Medical Education since 1944. His son, Dr. Joseph Winthrop Peabody Jr., is a resident in thoracic surgery at the Veterans Administration Hospital in Oteen, N. C.

MINNESOTA

Dr. Ravitch Speaks on Intussusception.—The annual Phi Delta Epsilon lectureship, "Present Concepts in the Management of Intussusception," will be given by Dr. Marcus M. Ravitch, director, department of surgery, Mount Sinai Hospital, New York, on Jan. 7, 1954, 8 p. m., at Owre Amphitheater, University of Minnesota Medical School, Minneapolis.

Personal.—Dr. Randall G. Sprague, Rochester, was presented the first annual J. Howard Reber memorial medal by the Philadelphia Metabolic Association at a meeting of the association in Philadelphia. The medal was awarded to Dr. Sprague for the contribution to the work in the field of diabetes.——Dr. Henry E. Michelson, professor of dermatology, University of Minnesota Medical School, Minneapolis, recently delivered the William Allen Pusey memorial lecture of the Institute of Medicine of Chicago, "A Review and an Appraisal of the Present Knowledge of Lupus Erythematosus," before a joint meeting of the institute and the Chicago Dermatological Society in Chicago.

MISSOURI

University News.—The St. Louis University School of Medicine announces the following promotions: to the rank of associate professor, Drs. Wilbur K. Mueller and Don C. Weir, department of clinical radiology; and to assistant professor, Drs. James G. Janney Jr., James P. Murphy, J. Earl Smith, department of clinical medicine; Dr. Eugene G. Hamilton, clinical obstetrics and gynecology; Dr. Wilbert M. Gansloser, neurology and psychology; Drs. Ralph K. Earp, and Irwin B. Horwitz, orthopedic surgery; Dr. Edwin G. Eigel, clinical pediatrics; and Dr. Seymour Brown, clinical surgery.

NEBRASKA

Crippled Children's Clinics.—The clinics for crippled children are scheduled for the following dates: Jan. 9, 1954, Lexington, high school; Jan. 13, Norfolk, Norfolk State Hospital; Feb. 6, North Platte, high school; Feb. 20, Scottsbluff, St. Mary Hospital.

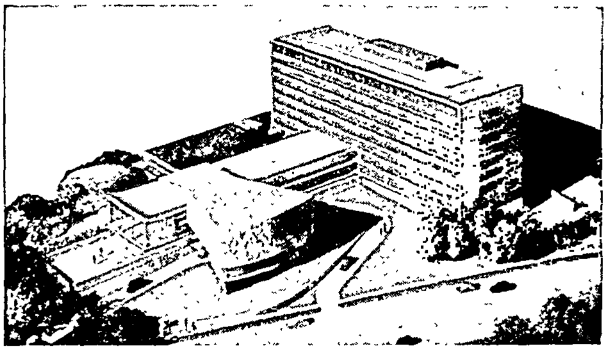
University News.—Creighton University recently honored six faculty members of the medical school in Omaha for 25 years' service. Plaques were presented to Drs. Michael J. Carey, Zeno N. Korth, Joseph W. McNamara, and James W. VaVerka, Leo P. Clements, Ph.D., Omaha, and to Dr. Isaac Sternhill, Council Bluffs, Iowa.

NEW YORK

Society News.—At the meeting of the Onondaga County Medical Society and Syracuse Academy of Medicine (304 McCarthy Building, Syracuse) Jan. 5, 1954, Dr. J. Englebert Dunphy of the Peter Bent Brigham Hospital, Boston, will discuss "The Role of the Surgeon in the Diagnosis, Treatment and Long Range Management of Cancer."

Lecture on Anesthetic Emergencies.—Drs. Merel H. Harmel, professor of anesthesiology, and Sylvan N. Surks, assistant professor of anesthesiology, State University of New York College of Medicine at New York City, Brooklyn, will discuss "Anesthetic Emergencies," Jan. 7, 1954, 8:30 p. m. at the Jewish Sanitarium and Hospital for Chronic Diseases, 86 E. 49th St., Brooklyn 3.

Albert Einstein College of Medicine.—Ground was broken on Oct. 25 for the 10 million dollar Albert Einstein College of Medicine of Yeshiva University at Morris Park Avenue and Eastchester Road, the Bronx. The 10-story building, shown in the illustration, will be the first unit of a 25 million dollar medical teaching center and is expected to be ready for occupancy in the fall of 1955, when the first class (100 freshmen) will be admitted. The faculty will consist of 300 full-time instructors and a larger number of part-time teachers. The college will adjoin the 1,400-bed Bronx Municipal Hospital Center, which the city of New York is constructing at an estimated cost of 40 million dollars and which will be affiliated with the college and serve as its clinical teaching center. Adjoining the 10-story teaching research building will be a 3-story administrative and library wing, from which will be projected a 750-seat fan-shaped auditorium. The teaching and research wing will consist of a basement, ground floor, seven major laboratory and teaching floors, an animal institute, and a mechanical equipment floor. Each floor above the second will contain 14 laboratories. There will be three two-story lecture halls, and three conference rooms. Speakers at the ground-breaking ceremony included Gov. Thomas E. Dewey, Ralph J. Bunche, Ph.D., director of the division of trusteeship of the United Nations, Mayor Vincent R. Impellitteri, Samuel Belkin, Ph.D., president of Yeshiva University, and Dr. Marcus D. Kogel, New York commissioner of hospitals. Nelson A. Rockefeller, undersecretary of the Department of Health, Education, and Welfare, addressed the dinner celebration following the ceremonies.



Albert Einstein College of Medicine of Yeshiva University.

New York City

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Silkworth Memorial Service.—The Knickerbocker Hospital announces the opening of the Silkworth Memorial Service devoted to the study and treatment of deviant eating and drinking habits. Emphasis will be given to obesity and alcoholism and the inter-relation of the physiological and medical aspects and the patient's emotional and social problems. A diagnostic evaluation, carried out by the service on all referred patients, will cover the medical, psychological, and social areas. Dr. Giorgio Lolli, director of the new service, will continue to be medical director of the Yale Plan Clinic, Yale University, New Haven, Conn., a position he has held for many years. To accept the direction of the Silkworth Memorial Service, he has resigned from the position of medical director of the Connecticut Commission on Alcoholism. He will, however, continue his association with the commission as a consultant.

OKLAHOMA

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TENNESSEE

Fifty Year Club.—At a special dinner meeting of the Memphis-Shelby County Medical Society, Oct. 6, at the Memphis Country Club, Drs. George R. Livermore, William H. Lovejoy, and Wallace P. Moore of Memphis and Dr. Logan C. McVay of Marion, Ark., were awarded certificates of recognition for their long service by the society and were presented with 50 year gold pins from the Tennessee State Medical Association. Dr. McVay recently received a 50 year pin from the Arkansas Medical Society.

TEXAS

Narcotic Violation.—Dr. Thomas Calvin Brackeen, 770½ Neches, Beaumont, pleaded guilty on Nov. 4 in the U. S. District Court at Beaumont to a violation of the federal narcotic law. On Nov. 5, he was sentenced to serve two years each on five counts, to run concurrently, and was fined $300 on each of the five counts. The sentence was suspended, and he was placed on probation for three years.

University News.—Dr. William F. Mengert, professor of obstetrics and gynecology, Southwestern Medical School of the University of Texas, Dallas, has been appointed chairman of the obstetrics and gynecology test committee of the National Board of Medical Examiners.——At the recent meeting of the Association of American Medical Colleges in Atlantic City, Dr. George N. Aagaard, dean of Southwestern Medical School of the University of Texas, was elected a member of the executive council for a three year term.

WEST VIRGINIA

Civil Defense Meeting.—At a combined staff meeting of the state and local health department personnel in Charleston, Dec. 14-15, Dr. Newman H. Dyer, state director of health, presided over a civil defense meeting of the medical and health services division of the West Virginia civil defense program. Dr. Henry C. Huntley, formerly of Charleston but now medical officer of the Regional Office, Federal Civil Defense Administration, West Chester, Pa., discussed the "Status of the Civil Defense Program at Regional Level," and Lt. Col. Edgar M. Sites, deputy C. D. director for West Virginia, presented "The General State Program." Dr. Leon A. Dickerson, director, Kanawha-Charleston Health Department, spoke on the role of the health officer, medical profession, advisory committee, voluntary agency, and the hospital in civil defense. The program also featured addresses by Dr. James S. Klumpp, Huntington, president, West Virginia State Medical Association; Dr. Russell Kessel, Charleston, president-elect; Mr. T. A. Baxter, state representative of the American Red Cross; and Mr. William R. Huff, executive secretary of the West Virginia Hospital Association.

ALASKA

Personal.—Dr. Arthur N. Wilson of Ketchikan has been appointed a member of the Alaska Board of Health.——Dr. Hazel I. Blair, Juneau, senior field physician for the health department, has been granted a year's leave of absence.——Dr. John T. Gentry, who was assigned by the U. S. Public Health Service as the first full-time health officer for the Greater Anchorage Health District in September, 1952, has resigned to fulfil a service obligation at the New York State Department of Health that was postponed because of his work with the U. S. Public Health Service.

Mental Health Association.—The Juneau Mental Health Association has elected its first board of directors, which includes Drs. Norman J. Diamond and Joseph O. Rude, Juneau. The organization, which consists of 41 members, was formed "to promote good mental health, to prevent mental and emotional illness, and to speed the day when any person who becomes mentally and emotionally ill will have the best possible chance to get well." Working committees include legislative, education, public relations, and mental health facilities. One of the first activities of the legislative committee is its work to encourage passage of HR 1217, a bill presently in congress, which seeks to improve treatment and care of Alaska's mentally ill. The association may be contacted through Mrs. Tickell, Box 1177, Juneau.

LATIN AMERICA

School for Study of Ophthalmology.—The Liga contra la Ceguera of Cuba will open a new school of specialization in ophthalmology in Havana, offering a two year course with theoretical and practical training and a one year postgraduate course. Dr. Thomas R. Yanes is head of the school. The first course will start in July, 1954, consisting of four semesters, up to a total of 800 hours. The tuition is $500, payable in two semesters. The first matriculation is restricted to 20 candidates, including Americans and Latin Americans, in practice for less than five years. Information may be obtained from the secretary of the school, M. Farinas Pelletier, Liga contra la Ceguera, Apartado de Correos 4053, Havana, Cuba.

GENERAL

Reports Wanted on Disaster Research.—The National Academy of Sciences-National Research Council has set up a committee on disaster studies under the council's division of anthropology and psychology. Because of the interest in disaster research, the many disciplines involved, and the great need for exchange of information, the committee has established a clearinghouse for disaster studies, is anxious to receive reprints and reports, especially unpublished reports, on disaster studies, and would appreciate communication with the investigators of any "in progress" studies. Correspondence may be addressed to the chairman, Mr. C. M. Louttit, National Academy of Sciences, 2101 Constitution Ave., Washington 25, D. C.

Cerebral Palsy Grants.—During the 12 months ending Sept. 30, United Cerebral Palsy allotted research and training grants totaling $392,874. Research grants, $254,940, reflected a 69% increase over the previous year. The new grants, which have widened the scope of research being sponsored by United Cerebral Palsy to include such investigations as a study of breathing movements in cerebral palsy and a study of factors promoting regeneration of nerve fibers in the central nervous system, are in addition to long-range studies begun in previous years. This year there were seven workshops, at which 116 educational and professional specialists and 52 counselors of the handicapped and social workers learned about special education and vocational planning for the palsied.

Society News.—At the annual meeting, Oct. 30-31, in Fort Worth, Texas, the **American Academy for Cerebral Palsy** chose Dr. Meyer A. Perlstein, Chicago, president and Dr. Lenox D. Baker, Durham, N. C., president-elect.——Officers of the **New England Society of Anesthesiologists** for the coming year are Dr. Stevens J. Martin, Hartford, Conn., president, Dr. Elihu Saklad, Providence, R. I., vice-president, and Dr. Francis J. Audin, Boston, secretary-treasurer.——At the annual meeting of the **Neurosurgical Society of America** at Colorado Springs, Colo., the following officers were elected: Dr. C. Douglas Hawkes, Memphis, president; Drs. Carl J. Graf, Buffalo, and Charles L. Neill, Jackson, Miss., vice-presidents; Dr. I. Joshua Speigel, Chicago, treasurer; and Dr. Lester A. Mount, New York, secretary.

Mississippi Valley Essay Contest.—The Mississippi Valley Medical Society offers a cash prize of $100, a gold medal, and a certificate of award for the best unpublished essay on any subject of general medical interest and of practical value to the general practitioners. Contestants must be members of the American Medical Association who are residents and citizens of the United States. The winner of the 1954 contest will be invited to present his contribution before the 19th annual meeting of the Mississippi Valley Medical Society, Chicago, Sept. 23-24, 1954. Contributions must be typewritten in English in manuscript form, submitted in five copies, not to exceed 5,000 words, and received not later than May 1. Details may be secured from Dr. Harold Swanberg, secretary, Mississippi Valley Medical Society, 209-224 W.C.U. Building, Quincy, Ill.

Meeting for Hospital Consultants.—At the annual convention of the American Association for the Advancement of Science the association will hold a joint session with the American Association of Hospital Consultants, Dec. 30, 9:30 a. m., at the Hotel Statler, Boston. Dr. E. Michael Bluestone, New York, president, American Association of Hospital Consultants, will preside over the following program on the research function of the hospital:

Varieties of Laboratory Service in Hospitals, Jack Masur, Washington, D. C.

A Hospital Research Program—Experiences at the Massachusetts General Hospital, Dean A. Clark, Boston.

Developments in Physical and Chemical Research (Including Atomic Research) Which Have a Relationship to Hospital Laboratories, G. Harvey Agnew, Toronto, Canada.

The discussion will be opened by Dr. Cecil G. Sheps, Boston.

Meeting on Premedical Education.—At the meeting of the American Association for the Advancement of Science, Boston, Alpha Epsilon Delta, national premedical honor society, will sponsor a luncheon at the Hotel Statler, 12:15 p. m., Dec. 29. "The Need for More Well Qualified Applicants for the Medical Schools" will be discussed by Dr. James M. Faulkner, dean, Boston University School of Medicine, and "Suggestions on a Second National Conference on Premedical Education" will be presented by the fraternity's national secretary, Maurice L. Moore. Informal round-table discussion will follow. Members of Alpha Epsilon Delta and others interested in premedical education are invited to attend the luncheon and program. Reservations for luncheon ($2.50, including gratuities) should be made through the National Secretary, Alpha Epsilon Delta, 7 Brookside Circle, Bronxville 8, N. Y.

Committee to Certify Mental Hospital Administrators.—The American Psychiatric Association has set up a committee to certify physicians as "qualified mental hospital administrators," in order to help ensure that the chief executives of mental hospitals shall be physicians not only adequately trained in psychiatry but also skilled in business and personnel management, community relations, budget control, procurement, and other essential administrative techniques. The committee, which will conduct examinations periodically, comprises: Drs. Francis J. Braceland, Hartford, Conn. (chairman); William B. Terhune, New Canaan, Conn.; George W. Jackson, Topeka, Kan.; Walter H. Baer, Peoria, Ill.; Granville L. Jones, Williamsburg, Va.; Frank F. Tallman, Los Angeles; Arthur M. Gee, Essondale, British Columbia, Canada; Harold W. Sterling, North Little Rock, Ark.; Jack R. Ewalt, Boston; and G. Wilse Robinson, Kansas City, Mo. Information may be obtained from the secretary, Dr. Crawford N. Baganz, Manager, Veterans Administration Hospital, Lyons, N. J.

FOREIGN

Society News.—The Association of Pediatricians of India, of which G. Coelho is chairman and R. V. Sanzgiri, secretary, has its headquarters at Back Bay View, New Queen's Road, Bombay 4.

International Orthopedic Surgery Meeting.—The sixth congress of the International Society of Orthopaedic Surgery and Traumatology will be held in Bern, Switzerland, Aug. 30 to Sept. 3, 1954. The tentative program includes treatment of scoliosis, physiology of sport, physiology of movement, chemical aspects of orthopedic surgery, bone and joint tuberculosis, bone and joint pathology, and surgery of the hand. Visits to nearby hospitals, research centers, and other institutions have been scheduled, as well as excursions at the close of the congress. Correspondence should be addressed to the secretary-general of the society, Dr. Jean Delchef, 34, rue Montoyer, Brussells, Belgium. Application should be made before May 31.

Prize for Study on Alcoholism.—The Society for the Study of Addiction has opened the competition for the Hubert Norman prize of 100 guineas (about $296) to stimulate research on the cause and prevention of addiction. The competition is open to both medical and nonmedical workers throughout the world, only officers of the society being ineligible. The subject of the first Hubert Norman prize will be: "Study or Investigation of Substances, Other Than Antabuse or Its Derivatives, Causing Distaste, Disinclination, or Dislike for Alcohol." Three copies of the manuscript, typewritten in English, should reach the editor of the *British Journal of Addiction*, 34 Addison Road, London, W.14, not later than Dec. 31, 1954. The award will be made in January, 1955. The selected contribution may be published in the journal and the winner invited to present it at a meeting of the society. Inquiries concerning the competition should be addressed to the editor of the journal.

CORRECTIONS

Dr. Sabin Not First Woman Graduate of Johns Hopkins.—The statement that Dr. Florence R. Sabin was the first woman to be admitted to and to graduate from Johns Hopkins University School of Medicine, which appeared in THE JOURNAL, Nov. 14, page 1030, was erroneous. Dr. Sabin was among the 13 women who received the M.D. degree in 1900 from Johns Hopkins. The first graduating class (1897) contained one woman, Mary Secord Packard.

New York City

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Surgery Course Postponed.—The University of Oklahoma School of Medicine, Oklahoma City, announces that the postgraduate study course in surgery originally scheduled for Dec. 9-11 has been postponed to Jan. 6-8, 1954. In addition to the staff of the School of Medicine, the faculty will include three visiting guest speakers: Dr. John T. Reynolds, associate professor of surgery, University of Illinois College of Medicine, Chicago, who will discuss problems of the gastrointestinal tract; Dr. Michael E. DeBakey, professor of surgery, Baylor University College of Medicine, Houston, Texas, who will speak on surgical management of diseases of the aorta; and Dr. John W. Duckett, professor of clinical surgery, Southwestern Medical School, Dallas, Texas, who will present some problems of pediatric surgery.

TENNESSEE

Fifty Year Club.—At a special dinner meeting of the Memphis-Shelby County Medical Society, Oct. 6, at the Memphis Country Club, Drs. George R. Livermore, William H. Lovejoy, and Wallace P. Moore of Memphis and Dr. Logan C. McVay of Marion, Ark., were awarded certificates of recognition for their long service by the society and were presented with 50 year gold pins from the Tennessee State Medical Association. Dr. McVay recently received a 50 year pin from the Arkansas Medical Society.

TEXAS

Narcotic Violation.—Dr. Thomas Calvin Brackeen, 770½ Neches, Beaumont, pleaded guilty on Nov. 4 in the U. S. District Court at Beaumont to a violation of the federal narcotic law. On Nov. 5, he was sentenced to serve two years each on five counts, to run concurrently, and was fined $300 on each of the five counts. The sentence was suspended, and he was placed on probation for three years.

University News.—Dr. William F. Mengert, professor of obstetrics and gynecology, Southwestern Medical School of the University of Texas, Dallas, has been appointed chairman of the obstetrics and gynecology test committee of the National Board of Medical Examiners.——At the recent meeting of the Association of American Medical Colleges in Atlantic City, Dr. George N. Aagaard, dean of Southwestern Medical School of the University of Texas, was elected a member of the executive council for a three year term.

WEST VIRGINIA

Civil Defense Meeting.—At a combined staff meeting of the state and local health department personnel in Charleston, Dec. 14-15, Dr. Newman H. Dyer, state director of health, presided over a civil defense meeting of the medical and health services division of the West Virginia civil defense program. Dr. Henry C. Huntley, formerly of Charleston but now medical officer of the Regional Office, Federal Civil Defense Administration, West Chester, Pa., discussed the "Status of the Civil Defense Program at Regional Level," and Lt. Col. Edgar M. Sites, deputy C. D. director for West Virginia, presented "The General State Program." Dr. Leon A. Dickerson, director, Kanawha-Charleston Health Department, spoke on the role of the health officer, medical profession, advisory committee, voluntary agency, and the hospital in civil defense. The program also featured addresses by Dr. James S. Klumpp, Huntington, president, West Virginia State Medical Association; Dr. Russell Kessel, Charleston, president-elect; Mr. T. A. Baxter, state representative of the American Red Cross; and Mr. William R. Huff, executive secretary of the West Virginia Hospital Association.

ALASKA

Personal.—Dr. Arthur N. Wilson of Ketchikan has been appointed a member of the Alaska Board of Health.——Dr. Hazel I. Blair, Juneau, senior field physician for the health department, has been granted a year's leave of absence.——Dr. John T. Gentry, who was assigned by the U. S. Public Health Service as the first full-time health officer for the Greater Anchorage Health District in September, 1952, has resigned to fulfil a service obligation at the New York State Department of Health that was postponed because of his work with the U. S. Public Health Service.

Mental Health Association.—The Juneau Mental Health Association has elected its first board of directors, which includes Drs. Norman J. Diamond and Joseph O. Rude, Juneau. The organization, which consists of 41 members, was formed "to promote good mental health, to prevent mental and emotional illness, and to speed the day when any person who becomes mentally and emotionally ill will have the best possible chance to get well." Working committees include legislative, education, public relations, and mental health facilities. One of the first activities of the legislative committee is its work to encourage passage of HR 1217, a bill presently in congress, which seeks to improve treatment and care of Alaska's mentally ill. The association may be contacted through Mrs. Tickell, Box 1177, Juneau.

LATIN AMERICA

School for Study of Ophthalmology.—The Liga contra la Ceguera of Cuba will open a new school of specialization in ophthalmology in Havana, offering a two year course with theoretical and practical training and a one year postgraduate course. Dr. Thomas R. Yanes is head of the school. The first course will start in July, 1954, consisting of four semesters, up to a total of 800 hours. The tuition is $500, payable in two semesters. The first matriculation is restricted to 20 candidates, including Americans and Latin Americans, in practice for less than five years. Information may be obtained from the secretary of the school, M. Farinas Pelletier, Liga contra la Ceguera, Apartado de Correos 4053, Havana, Cuba.

GENERAL

Reports Wanted on Disaster Research.—The National Academy of Sciences-National Research Council has set up a committee on disaster studies under the council's division of anthropology and psychology. Because of the interest in disaster research, the many disciplines involved, and the great need for exchange of information, the committee has established a clearinghouse for disaster studies, is anxious to receive reprints and reports, especially unpublished reports, on disaster studies, and would appreciate communication with the investigators of any "in progress" studies. Correspondence may be addressed to the chairman, Mr. C. M. Louttit, National Academy of Sciences, 2101 Constitution Ave., Washington 25, D. C.

Cerebral Palsy Grants.—During the 12 months ending Sept. 30, United Cerebral Palsy allotted research and training grants totaling $392,874. Research grants, $254,940, reflected a 69% increase over the previous year. The new grants, which have widened the scope of research being sponsored by United Cerebral Palsy to include such investigations as a study of breathing movements in cerebral palsy and a study of factors promoting regeneration of nerve fibers in the central nervous system, are in addition to long-range studies begun in previous years. This year there were seven workshops, at which 116 educational and professional specialists and 52 counselors of the handicapped and social workers learned about special education and vocational planning for the palsied.

Society News.—At the annual meeting, Oct. 30-31, in Fort Worth, Texas, the **American Academy for Cerebral Palsy** chose Dr. Meyer A. Perlstein, Chicago, president and Dr. Lenox D. Baker, Durham, N. C., president-elect.——Officers of the **New England Society of Anesthesiologists** for the coming year are Dr. Stevens J. Martin, Hartford, Conn., president, Dr. Elihu Saklad, Providence, R. I., vice-president, and Dr. Francis J. Audin, Boston, secretary-treasurer.——At the annual meeting of the **Neurosurgical Society of America** at Colorado Springs, Colo., the following officers were elected: Dr. C. Douglas Hawkes, Memphis, president; Drs. Carl J. Graf, Buffalo, and Charles L. Neill, Jackson, Miss., vice-presidents; Dr. I. Joshua Speigel, Chicago, treasurer; and Dr. Lester A. Mount, New York, secretary.

Mississippi Valley Essay Contest.—The Mississippi Valley Medical Society offers a cash prize of $100, a gold medal, and a certificate of award for the best unpublished essay on any subject of general medical interest and of practical value to the general practitioners. Contestants must be members of the American Medical Association who are residents and citizens of the United States. The winner of the 1954 contest will be invited to present his contribution before the 19th annual meeting of the Mississippi Valley Medical Society, Chicago, Sept. 23-24, 1954. Contributions must be typewritten in English in manuscript form, submitted in five copies, not to exceed 5,000 words, and received not later than May 1. Details may be secured from Dr. Harold Swanberg, secretary, Mississippi Valley Medical Society, 209-224 W.C.U. Building, Quincy, Ill.

Meeting for Hospital Consultants.—At the annual convention of the American Association for the Advancement of Science the association will hold a joint session with the American Association of Hospital Consultants, Dec. 30, 9:30 a. m., at the Hotel Statler, Boston. Dr. E. Michael Bluestone, New York, president, American Association of Hospital Consultants, will preside over the following program on the research function of the hospital:

Varieties of Laboratory Service in Hospitals, Jack Masur, Washington, D. C.

A Hospital Research Program—Experiences at the Massachusetts General Hospital, Dean A. Clark, Boston.

Developments in Physical and Chemical Research (Including Atomic Research) Which Have a Relationship to Hospital Laboratories, G. Harvey Agnew, Toronto, Canada.

The discussion will be opened by Dr. Cecil G. Sheps, Boston.

Meeting on Premedical Education.—At the meeting of the American Association for the Advancement of Science, Boston, Alpha Epsilon Delta, national premedical honor society, will sponsor a luncheon at the Hotel Statler, 12:15 p. m., Dec. 29. "The Need for More Well Qualified Applicants for the Medical Schools" will be discussed by Dr. James M. Faulkner, dean, Boston University School of Medicine, and "Suggestions on a Second National Conference on Premedical Education" will be presented by the fraternity's national secretary, Maurice L. Moore. Informal round-table discussion will follow. Members of Alpha Epsilon Delta and others interested in premedical education are invited to attend the luncheon and program. Reservations for luncheon ($2.50, including gratuities) should be made through the National Secretary, Alpha Epsilon Delta, 7 Brookside Circle, Bronxville 8, N. Y.

Committee to Certify Mental Hospital Administrators.—The American Psychiatric Association has set up a committee to certify physicians as "qualified mental hospital administrators," in order to help ensure that the chief executives of mental hospitals shall be physicians not only adequately trained in psychiatry but also skilled in business and personnel management, community relations, budget control, procurement, and other essential administrative techniques. The committee, which will conduct examinations periodically, comprises: Drs. Francis J. Braceland, Hartford, Conn. (chairman); William B. Terhune, New Canaan, Conn.; George W. Jackson, Topeka, Kan.; Walter H. Baer, Peoria, Ill.; Granville L. Jones, Williamsburg, Va.; Frank F. Tallman, Los Angeles; Arthur M. Gee, Essondale, British Columbia, Canada; Harold W. Sterling, North Little Rock, Ark.; Jack R. Ewalt, Boston; and G. Wilse Robinson, Kansas City, Mo. Information may be obtained from the secretary, Dr. Crawford N. Baganz, Manager, Veterans Administration Hospital, Lyons, N. J.

FOREIGN

Society News.—The Association of Pediatricians of India, of which G. Coelho is chairman and R. V. Sanzgiri, secretary, has its headquarters at Back Bay View, New Queen's Road, Bombay 4.

International Orthopedic Surgery Meeting.—The sixth congress of the International Society of Orthopaedic Surgery and Traumatology will be held in Bern, Switzerland, Aug. 30 to Sept. 3, 1954. The tentative program includes treatment of scoliosis, physiology of sport, physiology of movement, chemical aspects of orthopedic surgery, bone and joint tuberculosis, bone and joint pathology, and surgery of the hand. Visits to nearby hospitals, research centers, and other institutions have been scheduled, as well as excursions at the close of the congress. Correspondence should be addressed to the secretary-general of the society, Dr. Jean Delchef, 34, rue Montoyer, Brussells, Belgium. Application should be made before May 31.

Prize for Study on Alcoholism.—The Society for the Study of Addiction has opened the competition for the Hubert Norman prize of 100 guineas (about $296) to stimulate research on the cause and prevention of addiction. The competition is open to both medical and nonmedical workers throughout the world, only officers of the society being ineligible. The subject of the first Hubert Norman prize will be: "Study or Investigation of Substances, Other Than Antabuse or Its Derivatives, Causing Distaste, Disinclination, or Dislike for Alcohol." Three copies of the manuscript, typewritten in English, should reach the editor of the *British Journal of Addiction*, 34 Addison Road, London, W.14, not later than Dec. 31, 1954. The award will be made in January, 1955. The selected contribution may be published in the journal and the winner invited to present it at a meeting of the society. Inquiries concerning the competition should be addressed to the editor of the journal.

CORRECTIONS

Dr. Sabin Not First Woman Graduate of Johns Hopkins.—The statement that Dr. Florence R. Sabin was the first woman to be admitted to and to graduate from Johns Hopkins University School of Medicine, which appeared in THE JOURNAL, Nov. 14, page 1030, was erroneous. Dr. Sabin was among the 13 women who received the M.D. degree in 1900 from Johns Hopkins. The first graduating class (1897) contained one woman, Mary Secord Packard.

Hans L. Popper.—The senior author of the Clinical Note in The Journal, Nov. 21, 1953, page 1095, entitled "Ligation of Hepatic Artery for Portal Hypertension" was Hans Leopold Popper, M.D. A second physician in Chicago with a similar name (Hans Popper, M.D.) is on the staff at the Hektoen Institute of the Cook County Hospital.

The Bolen Test for Cancer.—In queries and Minor Notes in The Journal, June 21, 1952, page 797, the reference to the two journals mentioned in the last three lines of the first paragraph in the answer were erroneous and should have referred to the *American Journal of Surgery*, November, 1950, and to the *American Journal of Digestive Diseases*, February, 1950.

EXAMINATIONS AND LICENSURE

National Board of Medical Examiners: *Parts I and II.* Held in approved medical schools where there are five or more candidates. Dates: Feb 9-10; April 20-21 (Part II only); June 22-23; Sept. 7-8 (Part I only). Candidates may file examinations at any time but the National Board must receive them at least six weeks before the date of the examination they wish to take. New candidates should apply by formal registration; registered candidates should notify the board by letter. Sec., Dr. John P. Hubbard, 133 S. 36th St., Philadelphia 4.

BOARDS OF MEDICAL EXAMINERS

Alabama: *Examination.* Montgomery, June 22-24, 1954. Sec., Dr. D. G. Gill, 537 Dexter Ave., Montgomery.

Delaware: Dover, Jan. 12-14, 1954. Sec., Dr. Joseph S. McDaniel, 229 South State St., Dover.

Guam: The Commission on Licensure will meet whenever a candidate appears or submits his credentials. Director of Medical Services, Guam Memorial Hospital, Agana.

Hawaii: Honolulu, Jan. 11-14. *Examination.* Sec., Dr. I. L. Tilden, 1020 Kapiolani St., Honolulu.

Idaho: Boise, Jan. 11-13, 1954. Executive Secretary, Mr. Armand L. Bird, 364 Sonna Bldg., Boise.

Illinois: *Examination and Reciprocity.* Chicago, Jan. 26-28. Supt. of Registration, Mr. Fredric B. Selcke, Capitol Bldg., Springfield.

Indiana: *Examination.* Indianapolis, June 16-18. Exec. Sec., Miss Ruth V. Kirk, 538 K of P Bldg., Indianapolis.

Massachusetts: *Examination.* Boston, Jan. 12-15. Sec., Dr. Robert C. Cochrane, Room 37, State House, Boston 33.

Michigan:* *Examination.* Detroit and Ann Arbor, June 1954. Sec., Dr. J. Earl McIntyre, 202-4 Hollister Bldg., Lansing 8.

Montana: *Reciprocity.* Helena, April 5. *Examination.* Helena, April 6-7. Sec., Dr. S. A. Cooney, 214 Power Block, Helena.

Nebraska:* *Examination.* Omaha, June 1954. Director, Mr. Husted K. Watson, 1009 State Capitol Bldg., Lincoln.

Nevada:* *Examination and Reciprocity.* Reno, Jan. 6. Sec., Dr. George H. Ross, 112 Curry St., Carson City.

New Hampshire: *Examination and Reciprocity.* Concord, March 10. Sec., Dr. John S. Wheeler, 107 State House, Concord.

New Mexico:* *Examination and Reciprocity.* Santa Fe, April 12-13. Sec., Dr. R. C. Derbyshire, 227 E. Palace Ave., Santa Fe.

New York: *Examination.* Albany, Buffalo, Syracuse and New York City, Feb. 16-19. Sec., Dr. Stiles D. Ezell, 23 S. Pearl St., Albany.

North Carolina: *Reciprocity.* Winston-Salem, Jan. 18. Sec., Dr. Joseph J. Combs, 716 Professional Bldg., Raleigh.

North Dakota: *Examination.* Grand Forks, Jan. 6-9, 1954. *Reciprocity.* Grand Forks, Jan. 9. Sec., Dr. C. J. Glaspel, Grafton.

Oklahoma:* *Examination.* Oklahoma City, June 9-10. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

Oregon:* *Examination.* Portland, Jan. 4-5. *Reciprocity.* Portland, Jan. 14-16. Sec., Mr. Howard I. Bobbitt, 609 Failing Bldg., Portland.

Pennsylvania: *Examination.* Philadelphia, January 1954. Acting Secretary, Mrs. Margaret G. Steiner, Box 911, Harrisburg.

Rhode Island:* *Examination.* Providence, Jan. 7-8. Admin. of Professional Regulation, Mr. Thomas B. Casey, 366 State Office Bldg., Providence.

South Carolina: *Reciprocity.* Columbia, Feb. 1. Sec., Mr. N. B. Heyward, 1329 Blanding St., Columbia.

South Dakota:* *Examination.* Sioux Falls, Jan. 19-20, 1954. Reciprocity can be obtained at any time between meetings of board. Executive Secretary, Mr. John C. Foster, 300 First National Bank Bldg., Sioux Falls.

Vermont: *Examination.* Burlington, Feb. 1954. Sec., Dr. F. J. Lawliss, Richford.

Washington:* *Examination.* Seattle, Jan. 10-13. *Reciprocity.* Seattle, Jan. 10. Sec., Mr. Edward C. Dohm, Department of Licenses, Olympia.

West Virginia: *Examination and Reciprocity.* Charleston, Jan. 11-13. Sec., Dr. N. H. Dyer, State Office Bldg., Charleston 5.

Wisconsin:* *Examination and Reciprocity.* Madison, Jan. 12-14, 1954. Sec., Dr. A. G. Koehler, 46 Washington Blvd., Oshkosh.

Wyoming: *Oral Examination and Reciprocity.* Cheyenne, Feb. 1. Sec., Dr. Franklin D. Yoder, State Office Bldg., Cheyenne.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

Alaska: On application. Juneau or other towns in Territory as decided by Board. *Reciprocity.* On application. Sec., Dr. C. Earl Albrecht, Box 1931, Juneau.

Connecticut: *Examination.* New Haven, Feb. 13. Address: State Board of Healing Arts, 52 Whitney Ave., New Haven 10.

Iowa: *Examination.* Des Moines, Jan. 12. Sec., Dr. Ben H. Peterson, Coe College, Cedar Rapids.

Michigan: *Examination.* Detroit and Ann Arbor, Feb. 12-13. Sec., Mrs. Anne Baker, 410 W. Allegan St., Lansing 15.

Minnesota: *Examination.* Minneapolis, Jan. 5-6. Sec., Dr. Raymond N. Bieter, 105 Millard Hall, Minneapolis 14.

Nevada: *Examination.* Reno, Jan. 5. Sec., Dr. Donald G. Cooney, Box 9005, University of Nevada, Reno.

New Mexico: *Examination.* Santa Fe, Jan. 17. Sec., Miss Marguerite K. Cantrell, Box 1522, Santa Fe.

Oklahoma: *Examination.* Oklahoma City, April 16-17. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

Oregon: *Examination.* Portland, March 6, June 5, Sept. 11 and Dec. 4. Sec., Mr. Charles D. Byrne, State Board of Higher Education, Eugene.

Tennessee: *Examination.* Memphis, Dec. 30-31. Sec., Dr. O. W. Hyman, 874 Union Ave., Memphis 3.

Texas: *Examination.* April 1954. Location determined by number of applicants from different sections of the state. Sec., Brother Raphael Wilson, C.S.C., 407 Perry-Brooke Bldg., Austin.

Washington: *Examination.* Seattle, Jan. 6-7. Sec., Mr. Edward C. Dohm, Department of Licenses, Olympia.

Wisconsin: *Examination.* Madison, April 3 and June 5. Final date for filing application is March 26 and May 28. Sec., Dr. W. H. Barber, 621 Ransom St., Ripon.

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*Basic Science Certificate required.

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

1954 Annual Meeting, San Francisco, June 21-25.

1954 Clinical Meeting, Miami, Florida, Nov. 30-Dec. 3.

1955 Annual Meeting, Atlantic City, N. J., June 6-10.

1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

1956 Annual Meeting, Chicago, June 11-15.

Annual Congress on Medical Education and Licensure, Palmer House, Chicago, Feb. 7-9. Dr. Edward L. Turner, 535 N. Dearborn St., Chicago 10, Secretary.

American Academy of Allergy, Shamrock Hotel, Houston, Texas, Feb. 1-3. Dr. Alan G. Cazort, 1425 West 7th St., Little Rock, Ark., Secretary.

American Academy of Occupational Medicine, John Marshall Hotel, Richmond, Va., Feb. 11-12. Dr. Leonard J. Goldwater, 600 W. 168th St., New York 32, Secretary.

American Academy of Orthopaedic Surgeons, Palmer House, Chicago, Jan. 23-28. Dr. John R. Norcross, 122 S. Michigan Blvd., Chicago 3, Secretary.

American College of Radiology, Drake Hotel, Chicago, Feb. 5. Mr. William C. Stronach, 20 N. Wacker Drive, Chicago 6, Executive Secretary.

American Federation for Clinical Research:

- Eastern Section, Amphitheater, Children's Medical Center, Boston, Jan. 4. Dr. Joseph R. Stanton, 482 Beacon St., Boston 15, Chairman.
- Southern Section, Jung Hotel, New Orleans, Jan. 29. Dr. William Parson, University of Virginia School of Medicine, Charlottesville, Va., Chairman.
- Western Section, Auditorium, University of Oregon Medical School, Portland, Ore., Jan. 28. Dr. I. S. Edelman, University of California Medical Center, San Francisco Hospital, San Francisco 15, Secretary.

American Laryngological, Rhinological and Otological Society:

Eastern Section, Waldorf-Astoria, New York, Jan. 8. Dr. Daniel S. Cunning, 118 E. 53d St., New York 22, Chairman.

Middle Section, Park Plaza Hotel, St. Louis, Jan. 18. Dr. French K. Hansel, 634 N. Grand Blvd., St. Louis, Chairman.

Southern Section, Brown Hotel, Louisville, Ky., Jan. 16. Dr. William C. Wolfe, 1012 Heyburn Bldg., Louisville 2, Ky., Chairman.

Western Section, University of Oregon Medical School, Portland, Ore., Feb. 6. Dr. Guy L. Boyden, 1735 N Wheeler Ave., Portland 12, Ore., Chairman.

American Orthopsychiatric Association, Hotel New Yorker, New York, Feb. 11-13 Dr. Marion F. Langer, Room, 303 Lexington Ave., New York 16, Secretary.

American Protestant Hospital Association, Palmer House, Chicago, Feb. 10-12. Mr. Albert G. Hahn, Protestant Deaconess Hospital, Evansville, Ind., Executive Secretary.

American Society for Surgery of the Hand, Palmer House, Chicago, Jan. 22. Dr. George V. Webster, 960 East Green St., Pasadena 1, Calif., Secretary.

Central Surgical Association, Statler Hotel, Detroit, Feb. 18-20. Dr. Robert M. Zollinger, University Hospital, Columbus 10, Ohio, Secretary.

Northwest Society for Clinical Research, Portland, Ore., Jan. 28. Dr. Arthur L. Rogers, 1216 S.W. Yamhill St., Portland, Ore., Secretary.

Regional Meetings, American College of Physicians:

Eastern Pennsylvania, Philadelphia, Jan. 15. Dr. Thomas M. McMillan, 330 S. Ninth St., Philadelphia 7, Governor.

Sectional Meetings, American College of Surgeons: Charlotte, N. C., Hotel Charlotte, Feb. 1-3. Dr. Thomas D. Sparrow, 403 North Tryon St., *Charlotte 2, N. C., Chairman.*

Society of University Surgeons, Sheraton Hotel, Rochester, N. Y., Feb. 11-13. Dr. C. Rollins Hanlon, 1325 South Grand Blvd., St. Louis, *Secretary.*

Western Society for Clinical Research, Portland, Ore., Jan. 29-30. Dr. Herbert N. Hultgren, Stanford Hospital, San Francisco 15, Secretary.

FOREIGN

Association of Surgeons of Great Britain and Ireland, Leeds, England, May 13-15, 1954. Dr. Henry W. S. Wright, 45 Lincoln's Inn Fields, London W.C.2, England, Honorary Secretary.

British Medical Association, Glasgow, Scotland, July 1-9, 1954. Dr. A. Macrae, B.M.A. House, Tavistock Square, London, W.C.1, England, Secretary.

Canadian Medical Association, Vancouver, B. C., Canada, June 14-18, 1954. Dr. T. C Routley, 135 St. Clair Ave. W., Toronto 5, Ont., Canada, General Secretary.

Conference of International Union Against Tuberculosis, Madrid, Spain, Sept. 26-Oct. 2, 1954. Secretariat, Escuela de Tisiologia, Ciudad Universitaria, Madrid, Spain.

Congress of International Anesthesia Research Society, Los Angeles, Calif., U. S. A., Oct. 4-7, 1954. For information write: Dr. T. H. Seldon, 102-110 Second Avenue S. W., Rochester, Minn., U. S. A.

Congress of International Association for the Prevention of Blindness, New York, N. Y., U. S. A., Sept. 12-17, 1954. Professor Franceschetti, 2 Avenue Mirmot, Geneva, Switzerland, Secretary-General.

Congress of International Society of Surgery, Paris, France, May 21-22, 1954. Dr. L. Dejardin, 141, rue Belliard, Brussels, Belgium, General Secretary.

Health Congress of the Royal Sanitary Institute, Scarborough, England, April 27-30. Mr. P. Arthur Wells, Royal Sanitary Institute, 90 Buckingham Palace Road, London, S.W.1, England, *Secretary.*

International Cancer Congress, Sao Paulo, Brazil, July 23-29, 1954. Prof. A. Prudente, 171 rua Benjamin Constante, Sao Paulo, Brazil, President.

International Conference on Thrombosis and Embolism, Basle, Switzerland, July 15-19, 1954. Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, Switzerland, Hon. Secretary.

International Congress on Child Psychiatry, University of Toronto, Toronto, Ontario, Canada, Aug. 13-14, 1954. Miss Helen Speyer, International Association for Child Psychiatry, 1790 Broadway, New York 19, New York, U. S. A., Executive Officer.

International Congress of Clinical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Dr. Robert A Moore, Washington University School of Medicine, St. Louis 10, Missouri, U. S. A., Chairman, *Committee on Arrangements.*

International Congress on Diseases of the Chest, Barcelona, Spain, Oct. 4-8, 1954 Mr. Murray Kornfeld, 112 East Chestnut St., Chicago 11, Illinois, Executive Secretary.

International Congress on Group Psychotherapy, Toronto, Ont., Canada, Aug. 12-14, 1954. Dr. J. L. Moreno, Room 327, 101 Park Ave., New York 17, N. Y., U. S. A., Director of Organizing Committee.

International Congress of Hematology, Paris, Sept. 6-11, 1954. Dr. Jean Bernard, 86 rue d'Assas, Paris 6e, France, Secretary.

International Congress of the History of Medicine, Rome and Salerno, Italy, Sept. 13-20, 1954. For information write: Segreteria XIV Congresso Internazionale di Storia della Medicina, Instituto di Storia della Medicine, Citta Universitaria, Rome, Italy.

International Congress of Hydroclimatism and Thalassotherapy, Dubrovnik, Yugoslavia, May 8-16, 1954. Prof. C. Plavsic, Zeleni venac 1, Belgrade, Yugoslavia, Secretary General.

International Congress of Industrial Medicine, Naples, Italy, Sept. 13-19, 1954. Professor Scipione Caccuri, Director, Institute of Industrial Medicine Policlinico, Naples, Italy, Chairman, Organizing Committee.

International Congress of Internal Medicine, Stockholm, Sweden, Sept. 15-18, 1954. Professor Anders Kristenson, Karolinska Sjukhuset, Stockholm 60, Sweden, Secretary-General.

International Congress of International College of Surgeons, São Paulo, Brazil, April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake Shore Drive, Chicago. Illinois. U. S. A., Secretary-General.

International Congress on Mental Health, University of Toronto, *Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write:* Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

International Congress of Nutrition, Amsterdam, Netherlands, Sept. 14-18, 1954. For information write: Dr. M. van Eekelen, Centraal Instituut voor Voedingsonderzoek T.N.O., 61 Catharynesingel, Utrecht, Netherlands.

International Congress on Obstetrics and Gynecology, Geneva, Switzerland, July 26-31, 1954. Dr H. de Watteville, Maternité Hôpital *Cantonal, Geneva, Switzerland, President.*

International Congress of Ophthalmology, University of Montreal and McGill University, Montreal, Canada, Sept. 10-11, 1954, and Waldorf-Astoria, New York, N. Y., U. S. A., Sept. 12-17, 1954. Dr. William L. *Benedict, 100 First Avenue Building,* Rochester, Minnesota, U. S. A., Secretary-General.

International Congress of Orthopedic Surgery and Traumatology, Berne, Switzerland, Aug. 30-Sept. 3, 1954. For information write: Professor M. Dubois, Isle-Hospital, Berne, Switzerland.

International Congress of Psychology, Montreal, Canada, June 7-12, 1954. For information write: Prof. H. S. Langfeld, International Union of Scientific Psychology, Eno Hall, Princeton University, Princeton, N. J., U. S. A.

International Congress for Psychotherapy, Zurich, Switzerland, July 21-24, 1954. Dr. H. K. Fierz, Theaterstrasse 12, Zurich 1, Switzerland, Secretary General.

International Gerontological Congress, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

International Poliomyelitis Congress, Rome, Italy, Sept. 6-10, 1954. Mr. Stanley E. Henwood, 120 Broadway, New York 5, N. Y., U. S. A., Executive Secretary.

International Society of Blood Transfusion, Paris, France, Sept. 12-19, 1954. For information write: Colonel Julliard, Societe Internationale de Transfusion Sanguine, 53 Boulevard Diderot, Paris 12e, France.

International Society for Cell Biology, Leiden, Netherlands, Sept. 2-9, 1954. Professor Peter J. Gaillard, University of Leiden, Leiden, Netherlands, Secretary.

International Society of Geographical Pathology, Washington, D. C., U. S. A., Sept. 6-10, 1954. Professor Fred C. Roulet, Hebelstrasse 24, Basle, Switzerland, Secretary-General.

Journees Medicales, Paris, France, April 21-25, 1954. For information write: Secretariat of the Journees, 12, rue Pierre-Geofroix, Colombes (Seine) France.

Latin American Congress of Otorhinolaryngology, Caracas, Venezuela, Feb. 21-25, 1954. Dr. Victorino Marquez Reveron, Centro, Medico, - Caracas, Venezuela, Secretary-General.

Latin American Congress of Physical Medicine, Medellin, Columbia, South America, Feb. 15-20, 1954. Dr. Cassius Lopez de Victoria, 176 East 71st St., New York 21, N. Y., U. S. A., Executive Director.

Pan American Congress of Ophthalmology (Intermin), São Paulo, Brazil, June 17-21, 1954. Dr. Moacyr E. Alvaro, São Paulo, Brazil, President.

Pan American Congress of Otorhinolaryngology and Bronchoesophagology, Mexico, D.F., Mexico, Feb. 28-March 4, 1954. Dr. Pedro Hernandez Gonzalo, 8 No. 358, Vedado, Havana, Cuba, General Secretary.

Pan American Medical Association, International Medical Cruise Congress, S. S. Nieuw Amsterdam, Jan. 6-22, 1954. Dr. Joseph J. Eller, 745 Fifth Avenue, New York 22, N. Y., U. S. A., Executive Director.

Pan-Pacific Surgical Congress, Honolulu, Hawaii, Oct. 7-18, 1954. Dr. F. J. Pinkerton, Suite 7, Young Bldg., Honolulu 13, Hawaii, Director General.

Royal Sanitary Institute Health Congress, Scarborough, England, April 27-30, 1954. Mr. P. Arthur Wells, Royal Sanitary Institute, 90 Buckingham Palace Road, London S. W. 7, England, Secretary.

Sectional Meeting, American College of Surgeons, London, England, May 17-19, 1954. Dr. Michael L. Mason, 40 East Erie St., Chicago 11, Ill., U. S. A., Secretary.

South American Congress of Angiology, Sao Paulo, Brazil, July 1954. For information write: Dr. Rubens Carlos Mayall, Rua Senador Vergueiro 73, Rio de Janeiro, Brazil, S. A.

World Congress of Cardiology, Washington, D. C., and Bethesda, Md., U. S. A., Sept. 12-17, 1954. Dr. L. W. Gorham, 44 East 23d St., New York 10, N. Y., U. S. A., Secretary-General.

World Congress of International Society for the Welfare of Cripples, Scheveningen-The Hague, Netherlands, Sept. 13-17, 1954. Secretariat: Miss H. P. Post, Pieter Lastmarkade 37, Amsterdam Z, Netherlands.

World Federation of Occupational Therapists, Edinburgh, Scotland, August 17, 1954.

World Medical Association, Rome, Italy, Sept. 26-Oct. 2, 1954. Dr. Louis H. Bauer, 345 East 46th St., New York 17, N. Y., U. S. A., Secretary-General.

DEATHS

Boland, Frank Kells ⊕ Atlanta, Ga.; born in Indianapolis May 3, 1875; Atlanta College of Physicians and Surgeons, 1900; intern and later resident in surgery at St. Joseph's Hospital in Baltimore until 1903 when he returned to Atlanta to practice; joined the faculty of his alma mater, now Emory University School of Medicine, in 1903 as demonstrator of anatomy; professor of operative and clinical surgery when his alma mater was known as Atlanta School of Medicine, serving from 1905 to 1913 and professor of clinical surgery from 1913 to 1915; formerly professor of surgery and clinical surgery at Emory University School of Medicine, where from 1937 to 1946 he was a member of the board of trustees and at the time of his death was Joseph Brown Whitehead professor of surgery and chairman of the department; professor of anatomy at Emory University School of Dentistry from 1907 to 1919 and professor of physiology from 1919 to 1949; formerly vice-chairman, Section on Surgery, General and Abdominal, American Medical Association; past president of the Southern Medical Association, of which he served as chairman and secretary of the surgical section, vice-president, and chairman of the council; past president and vice-president of the Southern Surgical Association; past president and secretary-treasurer of the Chattahoochee Valley Medical Association; past president of the Atlanta Historical Society, Medical Association of Georgia, Fulton County Medical Society, Southeastern Surgical Congress, University of Georgia Alumni Society, which in 1940 awarded him a citation for distinguished service, and the Emory University Alumni Association; member of the American Surgical Association, American Association for the Surgery of Trauma, American Association for Thoracic Surgery, Société Internationale de Chirurgie, Chi Phi, Phi Beta Kappa, Phi Beta Kappa Associates, Phi Chi, and Omicron Delta Kappa; fellow of the American College of Surgeons; member of the founders group of the American Board of Surgery; during World War I was chief of the surgical service at Base Hospital 43, in Blois, France, where the Emory unit was stationed, and later was appointed colonel, Medical Officers Reserve Corps; chairman of the Atlanta chapter, American Red Cross, from 1938 to 1942; president of the Atlanta chapter, English Speaking Union, since 1942; president of the Crawford W. Long Memorial Association; consulting surgeon, Georgia Baptist Hospital; surgeon, Crawford W. Long Memorial, Grady Memorial, and Piedmont hospitals, St. Joseph's Infirmary, and Emory University Hospital; in 1926 was given the degree of doctor of science at the University of Georgia; on the editorial board of the *American Surgeon*; author of "The First Anesthetic: The Story of Crawford Long"; died Nov. 11, aged 78, of nephritis and uremia.

Thompson, Alvin ⊕ Flint, Mich.; born in Racine, Wis., Dec. 12, 1880; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1912; specialist certified by the American Board of Urology; member of the American Urological Association; past president of the Genesee County Medical Society and the Flint Academy of Surgery; at one time taught at Rush Medical College and Northwestern Dental School in Chicago, and was secretary-treasurer of the Chicago Urological Society; fellow of the American College of Surgeons; on the staffs of Hurley, St. Joseph, and McLaren hospitals; died Oct. 22, aged 72, of arteriosclerotic heart disease.

Menk, Paul Ernest ⊕ Phoenix, Ariz.; Columbia University College of Physicians and Surgeons, New York, 1900; also a graduate in pharmacy; member of the Medical Society of New Jersey and the American Urological Association; specialist certified by the American Board of Urology; formerly practiced in Newark, N. J., where he was affiliated with Clara Maass Memorial Hospital, Babies' Hospital-Coit Memorial, Hospital of St. Barnabas and for Women and Children, Newark City Hospital, St. James Hospital, Irvington (N. J.) General Hospital, and Overlook Hospital in Summit; died Oct. 24, aged 76, of arteriosclerotic heart disease.

Sanford, Conley Hall ⊕ Memphis, Tenn.; born in Dyer, Tenn., Sept. 12, 1893; University of Tennessee College of Medicine, Memphis, 1918; interned at the Philadelphia General Hospital; served during World War I; specialist certified by the American Board of Internal Medicine; fellow of the American College of Physicians; since 1939 professor of medicine and chief of the division of medicine at his alma mater, from which he recently retired; recently retired as chief of staff at John Gaston Hospital; on the staff of the Baptist Memorial Hospital; died in Whitehaven Nov. 16, aged 60.

Abramson, Arthur Joseph ⊕ San Francisco; University of California Medical School, San Francisco, 1937; served during World War II; died Oct. 27, aged 46, of myocardial infarction and arteriosclerosis.

Anderson, Charles Rhodes ⊕ Winchester, Va.; University of Maryland School of Medicine, Baltimore, 1908; for many years member of the city council and mayor of Winchester; served during World War I; secretary of the Frederick County Board of Health; on the staff of Winchester Memorial Hospital; past president of the Chamber of Commerce; a director of the Commercial and Savings Bank; died Oct. 24, aged 75.

Barnes, Tiffany, Asheboro, N. C.; Medical College of Virginia, Richmond, 1925; member of the American Academy of General Practice; on the staff of Griffin Clinic-Hospital and Randolph Hospital; died Oct. 29, aged 55, of hemorrhage from esophageal varices.

Buckner, Frank Ingram ⊕ Campbellsville, Ky.; University of Louisville Medical Department, 1913; county health officer; served as county coroner; formerly member of the city council and the city board of education; died in the Rosary Hospital Oct. 13, aged 65.

Burnett, Harry Webster ⊕ Dayton, Ohio; Ohio State University College of Medicine, Columbus, 1915; specialist certified by the American Board of Radiology; member of the Radiological Society of North America and the American College of Radiology; on the consulting staff, Miami Valley Hospital, where he died Nov. 6, aged 61, of coronary disease.

Green, Edgar Vernon, Youngsville, N. C.; Emory University School of Medicine, Atlanta, 1937; affiliated with Franklin Memorial Hospital in Louisburg; died Oct. 14, aged 40, of injuries received in an automobile accident.

Green, Thaddeus Hall, St. Petersburg, Fla.; Atlanta Medical College, 1914; died Sept. 16, aged 63, of acute myocardial infarction.

Hanlon, Clement Richard ⊕ Bethlehem, Pa.; Jefferson Medical College of Philadelphia, 1936; specialist certified by the American Board of Orthopaedic Surgery; member of the American Academy of Orthopaedic Surgeons; fellow of the American College of Surgeons; affiliated with Robert Packer Memorial Hospital in Sayre, Easton (Pa.) Hospital and St. Luke's Hospital; died Oct. 18, aged 43, of coronary occlusion.

Hardman, Charles Terrell ⊕ Tallulah Falls, Ga.; Emory University School of Medicine, 1917; served as chairman of the board of trustees of the Tallulah Falls School and as physician for the Georgia Power Company; died in Emory University (Ga.) Hospital Oct. 4, aged 65, of rupture of aortic aneurysm.

Hartzell, Homer John ⊕ Cleveland; University of Wooster Medical Department, Cleveland, 1902; held teaching appointments in the departments of chemistry and pharmacology at Western Reserve University School of Medicine, where, from 1919 to 1935, he taught ophthalmology; for many years consultant in eye diseases to the city public schools; at various periods on the staffs of old Lakeside Hospital and St. John's Hospital; died Nov. 1, aged 80, of carcinoma of the pancreas.

⊕ Indicates Member of the American Medical Association.

Hendrickson, Harold Wesley ⊕ Cedarville, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1940; served during World War II; affiliated with Bridgeton (N. J.) Hospital, where he died Oct. 25, aged 40, of coronary occlusion.

Hertel, Paul, Chicago; Bennett Medical College, Chicago, 1915; served during World War I; died in the Alexian Brothers' Hospital Nov. 18, aged 75, of peritonitis, pararectal abscess, and carcinoma of the rectum.

Hogan, Austin ⊕ Johnstown, N. Y.; University and Bellevue Hospital Medical College, New York, 1902; died Aug. 26, aged 76, of cerebral hemorrhage and hypertensive cardiovascular disease.

Howell, John Valentine ⊕ Marion, Ala.; Tulane University of Louisiana School of Medicine, New Orleans, 1921; died in the Perry County Hospital Aug. 20, aged 56, of acute coronary thrombosis.

Jackson, William Henry, Louisville, Ky.; Meharry Medical College, Nashville, Tenn., 1911; died Oct. 7, aged 68.

Jones, Zebulon Baird Vance, Norfolk, Va.; Jefferson Medical College of Philadelphia, 1920; at one time treasurer of the Berkley Machine Works and Foundry Company; treasurer of the Berkley Permanent Building and Loan Association; died Oct. 20, aged 58, of coronary thrombosis.

Kitson, Verner H., Elk Rapids, Mich.; Detroit College of Medicine, 1910; served during World War I; on the staff of the James Decker Munson Hospital in Traverse City, where he died Oct. 22, aged 66, of arteriosclerotic heart disease with coronary occlusion.

Koon, Alpheus Cary, Lakeland, Fla.; Lincoln Memorial University Medical Department, Knoxville, Tenn., 1916; died in the Morrell Memorial Hospital Sept. 19, aged 63, of cirrhosis of the liver.

McFarland, Arthur Sidney, Rolla, Mo.; St. Louis College of Physicians and Surgeons, 1906; died in the Phelps County Memorial Hospital Sept. 5, aged 80.

Mantooth, John Thomas ⊕ Melissa, Texas; Chattanooga (Tenn.) Medical College, 1902; past president of the Collin County Medical Society; died in McKinney Aug. 10, aged 77, of complications following a prostatectomy.

Martin, Robert Clarence, Niagara Falls, N. Y.; University of Toronto Faculty of Medicine, Toronto, Canada, 1921; died Aug. 28, aged 60, of coronary occlusion.

Martin, Walter Evans ⊕ Dallas, Texas; Baylor University College of Medicine, Dallas, 1931; member of the American Academy of General Practice; died Oct. 15, aged 56.

Mathisen, George B., Chicago; University of Minnesota College of Medicine and Surgery, Minneapolis, 1901; served during World War I; affiliated with Illinois Central Hospital, where he died Nov. 10, aged 78, of chronic glomerulonephritis and multiple myeloma.

Miller, Fred E., Lawrenceville, Ill.; Chicago College of Medicine and Surgery, 1916; died Aug. 24, aged 72.

Mitchell, Edward Dana, Sr. ⊕ Memphis, Tenn.; University of Pennsylvania Department of Medicine, Philadelphia, 1898; fellow of the American College of Surgeons; past president of the Memphis and Shelby County Medical Society; affiliated with Crippled Children's Hospital School, St. Joseph Hospital, and Baptist Memorial Hospital, where he died Oct. 23, aged 77, of heart disease.

Moser, Oran Alexander ⊕ Rocky Hill, Conn.; Yale University School of Medicine, New Haven, 1902; an Associate Fellow of the American Medical Association; past president of the Hartford County Medical Association; for many years health officer of Rocky Hill; formerly affiliated with the State of Connecticut Veterans Home and Hospital; vice-president and director of the Cromwell Savings Bank; died Nov. 10, aged 82.

Nesbit, Wellwood Mack ⊕ Madison, Wis.; Rush Medical College, Chicago, 1917; professor of otolaryngology at University of Wisconsin Medical School; specialist certified by the American Board of Otolaryngology; member of the American Academy of Ophthalmology and Otolaryngology; affiliated with Madison General Hospital and State of Wisconsin General Hospital; died Oct. 27, aged 63, of coronary thrombosis.

Pasco, George William ⊕ Wolcott, N. Y.; Syracuse University College of Medicine, 1934; past president of the Wayne County Medical Society; died Oct. 30, aged 46, of carcinoma of the liver.

Payne, Edward Albert, Woburn, Mass.; Tufts College Medical School, Boston, 1933; served during World War II; city physician; on the staff of the Choate Memorial Hospital, where he died Oct. 26, aged 43, of coronary disease.

Powell, John Wesley, Sisseton, S. D.; Kentucky School of Medicine, Louisville, 1901; died Sept. 15, aged 78, of nephritis, diabetes mellitus, and cardiac decompensation.

Price, Charles Richard ⊕ Dayton, Ohio; Ohio State University College of Medicine, Columbus, 1930; on the courtesy staff of Miami Valley Hospital, where he died Oct. 23, aged 50, of cardiac arrest due to anesthesia and of mild cardiac hemorrhage due to contusion and multiple fractures of sternum, ribs, and mandible.

Reynolds, Jacob Thomas, Arcadia, Calif.; St. Louis College of Physicians and Surgeons, 1893; died Oct. 26, aged 82, of amyotrophic lateral sclerosis.

Roessly, George Rufus ⊕ Cincinnati; Medical College of Ohio, Cincinnati, 1904; died in St. Mary's Hospital Nov. 8, aged 80.

Rush, William Madison, Fern Creek, Ky.; Hospital College of Medicine, Louisville, 1907; served during World War I; died Nov. 3, aged 82.

Schultze, Joseph Henry, Birmingham, Ala.; University of Louisville School of Medicine, 1934; served during World War II; member of the American Trudeau Society; died in Andalusia, Sept. 3, aged 47, of heart failure.

Schumacher, Cyril William ⊕ St. Louis; St. Louis University School of Medicine, 1931; member of the American Academy of General Practice; affiliated with DePaul and St. Mary's hospitals; died Nov. 13, aged 46, of a skull fracture received in a fall.

Senescall, Cleve Ridlon ⊕ Enumclaw, Wash.; University of Illinois College of Medicine, Chicago, 1915; served during World War I; died Oct. 21, aged 64, of coronary disease.

Shipley, John Thomas, Meyersdale, Pa.; Jefferson Medical College of Philadelphia, 1929; served during World War II; died Oct. 26, aged 50.

Siebert, Jacob ⊕ Cleveland; University of Wooster Medical Department, Cleveland, 1907; died Oct. 28, aged 66.

Smith, Reuben Menifee ⊕ Stearns, Ky.; Kentucky University Medical Department, Louisville, 1905; died Nov. 2, aged 78.

Thompson, Jesse Eugene, Bristolville, Ohio; Western Reserve University Medical Department, Cleveland, 1904; served during World War I; died Oct. 4, aged 77, of heart disease.

Wagner, Rudolf, Wayne, Mich.; Bennett Medical College, Chicago, 1910; died Oct. 30, aged 79, of hemorrhage into the abdominal cavity and dissecting aneurysm.

DIED WHILE IN MILITARY SERVICE

Coler, Eugene Seeley ⊕ East Hampton, N. Y.; McGill University Faculty of Medicine, Montreal, Canada, 1922; associate clinical professor of obstetrics and gynecology at Columbia University College of Physicians and Surgeons in New York; specialist certified by the American Board of Obstetrics and Gynecology; fellow of the American College of Surgeons; affiliated with the Southampton (N. Y.) Hospital, Vanderbilt Clinic, and Sloane Hospital for Women in New York; served during World War II; Colonel (MC), U. S. Air Force Reserve; died in England Aug. 30, aged 57, of a heart attack.

FOREIGN LETTERS

BRAZIL

Esophagorespiratory Fistula.—A study on esophagorespiratory fistula was published by Drs. E. S. San Juan, Paulo Freitas, Iseu Costa, and Esmeralda Lomba in *Revista de medicina e cirurgia de São Paulo* (13:277 [June] 1953). The authors collected 42 cases of thoracic crushing injury including two cases of esophagorespiratory fistula. Such cases do not occur frequently, and their prognosis is poor. Dr. San Juan and coworkers described two cases. One patient was treated during the acute period by means of decompressive mediastinotomy and drainage of the pleural cavity. In spite of supplementary measures, the patient did not respond to treatment and died within 24 hours. The other patient survived the acute phase, the esophagotracheal fistula persisting for two months. The treatment used was suture of the esophagus and trachea after a right-sided thoracotomy.

The authors studied the symptoms and signs that appear in both acute and chronic phases, pointing out the difficulties in diagnosing the precise localization of the rupture of the respiratory passages—information necessary before surgical repair is attempted. When the patient does not die as a result of the accident, the lesion may be localized by means of bronchoscopy and esophagoscopy. Rupture of the trachea or of the principal bronchus always takes place in the membranous portion. A contrast examination of the esophagus should be made with iodized oil and controlled by radioscopy, with the patient lying face downward. Communication between the esophagus and the respiratory tract can be made evident in a simpler manner merely by oral administration of methylene blue. The dye will be immediately expelled by coughing if the patient is lying prone. Rupture of the trachea, bronchus, or esophagus, caused by thoracic crushing injury, must be treated without delay because the prognosis is grave. A decompressing mediastinotomy, drainage of the pleural cavity, and administration of oxygen diminish the dyspnea, cyanosis, and hypertensive pneumothorax. Generally, when these measures are taken, emphysema does not develop. Once the acute symptoms have disappeared, only the esophagorespiratory fistula remains. Some authors favor closing the esophageal-tracheal orifice by cauterization. Others, however, recommend surgical closure of the rupture of the esophagus and respiratory tract as the safer method.

Perforated Ulcers of Stomach and Duodenum.—In *Arquivos de cirurgia clinica e experimental,* Drs. Ruy Ferreira Santos, D. Bittencourt, Cassio Montenegro, Ary Carmo Russi, and C. Caricchio reported a study of 302 perforated gastric and duodenal ulcers seen in the emergency ward of the Hospital das Clínicas of the Medical School of the University of São Paulo during a seven year period. Duodenal perforations were more frequent (82.5%) than gastric perforations (17.5%). Eighty-one per cent of the patients were in the third, fourth, and fifth decades of life. The patients in their twenties predominated. Their ages ranged from 15 to 78 years (average 35.1). As a rule, the onset of duodenal ulcers and also perforation occurs at an earlier age than of gastric ulcers. There was a higher proportion of ulcers and their perforations in men than in women. Perforated ulcers occurred oftener during spring and autumn.

The percentage distribution of the perforations through the 24 hours of the day showed that the duodenal ulcers perforated oftener in the morning, before breakfast, and that the gastric ulcers are more apt to perforate in the evening and during the night, in the periods of digestive activity. Only 10.6% of the patients had not had epigastric pain, pyrosis, nausea, or vomiting in the past. Bleeding and other digestive symptoms were reported less frequently.

In this series the preponderant symptom of perforation was a sudden sharp pain in the epigastrium, radiating to the lower right abdominal quadrant or to the right shoulder. Reflex vomiting was common. Peritoneal irritation was manifested in 93% of the patients by rigidity of the abdominal wall. Paralytic ileus was rare, probably because of the early admission to the hospital. Six per cent of the patients came to the hospital later and had severe peritonitis with meteorism, a dull percussion note in the flanks, and bulging of the pouch of Douglas. The liver dulness disappeared in 62%. Since the roentgenological examination at various angles revealed free gas in the peritoneal cavity in only 77%, the absence of roentgenological signs of pneumoperitoneum does not rule out a perforated ulcer and, in such a case, the diagnosis must depend chiefly on the history and physical findings. Absence of pneumoperitoneum does not always mean there is a sealed perforation, but this diagnosis is very likely when there is free gas in the peritoneal cavity and improvement of the abdominal rigidity. Hydropneumoperitoneum indicates diffuse and severe peritonitis. Deterioration of the general condition of the patient was more frequently observed in the patients with gastric than in those with duodenal perforation.

The mean elapsed time from the moment of perforation until admission to the hospital was 11.4 hours. A wrong diagnosis was made 13 times, consisting of acute appendicitis in 11 patients, acute cholecystitis in one and acute abdominal condition, cause undetermined, in one.

Suturing operations were performed in 47 patients in this series, including simple suturing in 20, suturing plus epiploplasty in 23, suturing plus gastroenterostomy in 3, and suturing after selective resection of the ulcer in one. Resections were performed in 252 patients; the anastomosis was antecolic in 167 and retrocolic in the rest. The authors prefer gastroduodenal resection because: (1) the suturing operations are not always curative, and in many patients the ulcer persists and a second operation must be performed (40 to 65% according to the literature; 22.7% in this series); (2) resection prevents recurring perforations (only one recurred in this series); (3) resection eliminates the possibility of multiple ulcers and the danger of not recognizing multiple simultaneous perforations (one patient in this series had multiple perforations); (4) resection prevents a stenosis and postoperative bleeding and takes into consideration the possibility of the perforation being associated with a gastric malignancy; and (5) the operative mortality following resection is low.

The criterion for selecting the palliative or the radical operation is the evaluation of the patient's age, the elapsed time after the perforation, the patient's general condition, and the peritoneal reaction observed during laparotomy. Drainage was used in 20 of the resections to prevent or treat diffuse peritonitis. It was indicated when the general condition of the patient or some technical accident led to fear of an eventual leakage around the sutures. Inhalation anesthesia or subarachnoidal spinal anesthesia was used, according to the preference of the surgical teams. As a rule, spinal anesthesia was not used when the general condition of the patient was poor or when too many hours had elapsed since the perforation.

The duration of hospitalization of the surviving cases was taken as a quantitative index of the complications. It appeared to depend on the elapsed time between perforation and treatment and on the patient's age rather than on the duration of the operation. On the average, the patients with gastric perforation, those treated by palliative suturing, those in whom drainage was necessary, and those who were given inhalation anesthesia remained in the hospital for longer periods, but it must be remembered that, as a rule, all such patients were

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The items in these letters are contributed by regular correspondents in the various foreign countries.

admitted in poor general condition. Postoperative complications developed in 49 patients.

Further treatment, including radical surgery, was needed in 22.7% of the surviving patients treated by suturing and who answered a follow-up questionnaire. Although the follow-up studies are not complete, the patients treated by resection were cured. A few patients had mild sequelae following gastrectomy.

Intestinal Schistosomiasis as an Occupational Disease.—Dr. Samuel Pessoa, São Paulo State University, reported to the Associação Paulista de Medicina a study on 18 patients with intestinal schistosomiasis among employees of the National Malaria Service who clean the sanitation ditches at Aracajú, Sergipe, without wearing boots. Under these conditions, they are subjected to continuous heavy infestations by cercariae of Schistosoma mansoni. These workers have very high incidences of allergic and toxic phenomena and cirrhosis, anemia, a high erythrocyte sedimentation rate, and eosinophilia are more marked in them than in other victims living in the vicinity. Bronchial manifestations are observed in the severer cases; they are frequently diagnosed as bronchitis and are due to the direct effect of the parasites or to circulatory alterations. The author pointed out that the high sedimentation rates are probably due to hepatic lesions, and he believes the fever, present in severer and older cases of the disease, to be caused by an allergic mechanism.

CHILE

Seventh Medicosurgical Meeting of Valparaiso.—The transactions of the seventh medicosurgical meeting of Valparaiso appeared in the March issue of the quarterly of the Valparaiso Medical Association. Leukemia, primary cancer of the lung, and antibiotics were discussed.

Leukemia.—Dr. Etcheverry stated that there are three approaches to the pathogenesis of leukemia: the infectious, the neoplastic, and the one that considers leukemia a disease of adaptation. After analyzing each of these, the author inclined to the belief that the leukemic cell, because of its immaturity and malignant character, has much in common with the neoplastic cell. The symptoms and clinical course were described by Dr. Raul Cabrera. In a series of patients with acute myeoblastic leukemia, 40% had splenomegaly and 70% had hepatomegaly. Involvement of the lymph glands was noted in 34%, and in 81% of these the involvement was limited to the cervical nodes. Pallor of the skin and mucosa was present in all the patients and was parallel with the degree and with the evolution of the anemia. Leukamid was present in 12%. Nearly 40% had temperatures that fluctuated between 99.5 F and 101.3 F, and 21% had temperatures between 102.2 F and 104 F. Purpuric manifestations were present in 46%, epistaxis in 59%, pyorrhea in 59%, and metrorrhagia in 15%. Palpitation on exertion was common, and a soft systolic murmur at the apex was present in 4% of the patients. Respiratory symptoms were rare. Anorexia or diarrhea or both occurred in 25%, arthralgias in 15%, and neurological signs in 28%. In a series of patients with acute lymphoblastic leukemia, splenomegaly was present in 83% and hepatomegaly in 40%. The lymphatic system was frequently involved. Pallor of the skin and mucosa was present in all the patients, and 87% had a febrile course.

In a group of patients with chronic myeloid leukemia, splenomegaly was present in 60% and hepatomegaly in 95%. Hemorrhages occurred in 4.6%. Although lymph glands were frequently involved, myeloid metaplasia was present in only 7.6%. Pallor of the skin was present in 85%, moderate fever in 61%, and neurological signs in 10%. In a series of patients with chronic lymphatic leukemia, splenomegaly was present in all the patients and hepatomegaly in 76%. A moderate irregular fever was noted in 28%.

Dr. Garreton and associates discussed the incidence of leukemia in Chile, which in the hospital population varies between 0.22 per thousand and 0.38 per thousand. An increase in prevalence was noted between 1940 and 1947. In children 94% of the cases were of acute leukemia. The chronic type is observed much more frequently in men than in women. The death rate from leukemia was 0.33 per thousand in 1940 and 1.05 per thousand in 1951.

Cancer of the Lung.—Drs. H. Apablaza and C. Palma reviewed 6,161 autopsies performed in the Van Buren hospital of Valparaiso between 1936 and 1951 and found that primary cancer of the lung was second in frequency only to cancer of the stomach. The right lung was more frequently the site of neoplasm than the left. Dr. Olivares and co-workers of the Salvador Hospital of Santiago reviewed 21,642 hospital admissions between 1942 and 1949 and found that, of all cancers, gastric neoplasms accounted for 48%; cancer of the esophagus for 8%; cancer of the biliary tract for 6%; and primary cancer of the lung for only 3%. Dr. Fritis and co-workers presented statistics showing that 60% of the primary cancers of the lung were of the undifferentiated type; 20% were of the epidermoid type; 14% were adenocarcinomas; and 3% were of the alveolar type.

The value of signs and symptoms in the diagnosis of cancer of the lung was discussed by Dr. Lucchini and associates. They concluded that most patients come to the physicians too late, mainly because the symptoms in the beginning are vague and not severe. Dr. Salvestrini and co-workers spoke of the use of radiology in the diagnosis of cancer of the lung. In all of the 105 cases described, radiological signs of cancer were present, but the interpretation was erroneous in 80 cases. This high percentage of error is due mainly to the fact that the cancer gave direct radiological evidence of a small tumor in only 26, whereas only indirect signs were present in 79 patients. Dr. H. Dew of Australia stated that in his country the radiologist makes the diagnosis in 30% of the cases. The main value of the roentgenogram is that it is often the source of our first suspicion of cancer of the lung. If every patient with a thickened shadow in the center of the lung is considered to have cancer until it is proved otherwise, the percentage of positive diagnoses should greatly increase.

Dr. G. Zamorano and associates of Valparaiso obtained negative results from bronchoscopy in 42% of the patients with cancer of the lung in whom bronchoscopy was performed, but they maintain that nevertheless this simple technique should always be used in patients suspected of having cancer of the lung. Dr. H. Dew of Australia stressed the fact that the use of bronchoscopy, roentgenograms, and biopsies can give a positive diagnosis in almost 80% of all cases.

Dr. R. Eulufi presented statistics on cytological diagnosis. In 41 patients with proved cancer of the lung, neoplastic cells were found in only 6, and he concluded that the value of this method is great when the findings are positive but that negative findings are valid only if they are repeated five or six times.

Antibiotics.—Dr. A. Vargas Carretero and associates observed 94 patients (73 of whom died) with subacute endocarditis between January, 1947, and June, 1952. The average age of the patients who survived was 27.4 years and of those who died 41.2 years. Of those who died, 37 received no antibiotic treatment, because the diagnosis was not made and the remaining 36 died during the treatment. The authors stressed that a favorable result can be expected in 54% of the patients if the treatment is started early and in only 25% if the treatment is started later than three months after the onset. Of 56 patients who were not treated with antibiotics because a correct diagnosis was not made, 93% died within six months and the rest within one year. Of a group who were treated with antibiotics, 77% died within six months and 3.8% survived for more than two years. Anatomical changes are another means of studying the effects of antibiotic treatment. The heart valves of patients who had been treated but had died of subacute endocarditis showed at autopsy various degrees of healing. The average spleen weight in patients without treatment was 324 gm., and in those who had a full course of treatment 272 gm. Another important finding was that well-conducted treatment prevents nephritis.

Antiparasite Campaigns in Chile.—Prophylactic activities against hydatidosis have continued in the province of Valdivia. A. Hube found Taenia echinococcus in 19 of 434 dogs. A total of 4,012 dogs were given arecoline hydrobromide. This was accompanied by an educational campaign in 43 schools. Movies dealing with hydatidosis were shown to more than 30,000 persons in small villages. More than 6,000 people were treated between February and May, 1953. In the period of January to March, the staff of the department of parasitology examined 2,691 persons in Lanco, Malalhue, and Panguipulli. Of 2,166 Ghedini-Weimber reactions, 70 were positive, and, of the same number of Casoni intradermal reactions, 169 were positive. The new reaction of conditional hemolysis, which was first used in Chile by Negme, Naquira, and Tagle, was performed on 2,186 persons and was positive in 133. A mobile x-ray unit permitted the study of pulmonary hydatidosis. In order to evaluate the results of the educational campaign, a survey was conducted in Malahue that revealed that 80% of the population knew how to dispose of the organs of cattle with hydatidosis, whereas prior to the campaign 90% of the population did not know.

After the diagnosis of the first acute cases of American trypanosomiasis (Chagas' disease) made by Drs. G. Gasic, R. Gajardo, and A. Neghme of the department of parasitology, a survey of all the country was started to determine the importance of infection by Trypanosoma cruzi. With this in mind, the department undertook to define the endemic areas, and in these areas infestation with Triatoma infestans was studied. The xenodiagnostic method was used to determine infection by T. cruzi. Since 1944 a total of 25,919 xenodiagnoses were made on persons living in endemic zones, with positive results in 8.7%. In addition to this, 6,256 domestic animals were examined and 8.1% were found to be infected. Most persons infected with T. cruzi were asymptomatic carriers; others had myocarditis.

Availability of Food in Chile.—The department of foodstuffs of the National Health Service has for the last 15 years been making a survey of availability in order to determine the exact state of the diet of the population. Drs. A. Riquelme and M. Garcia B. have recently completed a report on this subject covering the years 1947-1951. The average per capita distribution of foodstuffs was calculated by adding to the national production all imported foodstuffs and subtracting that which was exported. The population of the country was fixed at 6 million according to the latest census. As compared to the per capita per year figures for 1926 (based on the population of Santiago only), the milk supply increased from 36 to 102 liters; fish and other sea foods from 8 to 10.3 kg.; citrus fruits from 4.5 (in 1941) to 9.2 kg.; vegetables from 18.25 to 60 kg.; and sugar from 20 to 28 kg. There was no change in the figures for eggs (37.4), potatoes (75 kg.), and cereals (170 kg.). The figures for meat dropped from 73 to 31 kg.; for legumes from 15.3 to 6.6 kg. (mainly due to an increase in export); and for fats from 14.6 to 6.4 kg.

At the fifth annual meeting of the Chilean Society of Nutrition, Dietetics, and Toxicology held in December, 1948, a list of foodstuffs was drawn up that was to be the goal that must be attained in the nutritional plan of the country. Expressing the results in percentages of deficit or overproduction, the report noted a deficit of 70% for meat; 65% for legumes; 42% for potatoes; 46% for other vegetables; 65% for eggs; 49% for citrus fruits; 42% for fats; 33% for milk; and 14% for fish and other sea foods. There was an excess of 86% for sugar; 20% for cereals; and 6% for other than citrus fruits. The report further compares the nutritional values in the chart that they obtained with the one recommended by the National Research Council of the United States and obtained the following figures (expressed in percentage of deficit): for calcium, 52%; for riboflavin, 45%; for thiamine, 37%; for niacin, 36%; for caloric value, 30%; for ascorbic acid, 28.4%; for iron, 27%; for vitamin A, 10%; and for proteins, 14.3%. In conclusion means for remedying the situation, on both a short and long term basis, were proposed.

LONDON

Smog.—The smog that devastated London last December continues to be a subject of topical interest. Everyone has his remedy for it, and investigations are being carried out at all levels from the government downward. In the medical sphere it has been responsible for an interesting tiff between the general practitioners of London and the Ministry of Health, in which the Ministry has come off best. Toward the end of October the local Medical Committee for the County of London, a statutory body set up under the National Health Service to represent the 6,000 physicians in Greater London, issued a statement to the press calling for immediate action by the government to prevent a repetition of the disaster, and advising the wearing of gauze masks, comparable to those worn by surgeons, should there be a recurrence. The results were a rush on pharmacies the next day for gauze to make homemade masks—at a time when there was a shortage of gauze in the country—and an official statement from the Ministry of Health.

This was a carefully reasoned statement pointing out that there was some danger that the public might take the suggestion as being too easy a solution, and indicating that it was necessary to distinguish between ordinary persons who are not ill and those suffering from weakness of the heart and lungs. In the case of the former a simple gauze mask might help, but such a mask has certain obvious difficulties, since it is intended primarily to prevent spray from going outwards from the mouth and nose and not to prevent the intake of noxious substances. The statement went on to point out that there are simple masks widely used in industry that are more effective than the surgeon's gauze mask and are available commercially at little cost. Other practical measures are probably quite as effective as the surgeon's gauze mask and can be produced in the home, such as a scarf or towel or other cloth worn round the face. In the case of patients with pulmonary or cardiac disease, the problems are much more difficult, as the more efficient the mask the more difficult would it make the breathing. Such patients should be advised to stay at home during a thick fog, since fog is always less dense indoors than out. The statement added that the Ministry was actively investigating the problem.

The results of its activities have now been announced by the Minister of Health as follows: "I am advised that . . . . no mask which people could be expected to wear for long periods is likely to give complete protection, but that there are certain types of masks which may give some help to those most likely to be affected by smoke-polluted fog—namely people suffering from existing disease of the heart or lungs. I am, therefore, proposing to enable doctors, if they feel it to be desirable in each individual case, to prescribe under the National Health Service certain specified types of masks for patients suffering from these conditions who live or work in an area where smoke-polluted fog is likely to occur." Two types of masks are to be made available: one with a semirigid frame capable of being molded to the face and one fastened by tapes, of a type usually worn by surgeons. Both will incorporate removable pads of thin gauze and cotton tissue.

Thus ends an episode that should show the general practitioners the dangers of unskilled public relations. A little more contact with the Ministry of Health might have saved them a great deal of discomfiture. An editorial in *Lancet* (2:976 [Nov. 7] 1953) stated, "A gauze mask or a woollen scarf could be expected to exclude a reasonable proportion—perhaps a half to three-quarters of the particles, which might be enough to bring the pollution of inhaled air below the margin of danger. *Complete purification is . . . too much to hope for.* The more layers of gauze used, the more efficient the mask will be; but a balance will have to be struck between efficiency and resistance to breathing. The scarf or mask will serve a second purpose, warming and humidifying the incoming air . . . A gauze mask or, possibly better, a thick woollen scarf wrapped round the face, by excluding droplets and by warming and scrubbing the inhaled air, may, so far as can be judged, really prove useful. The only . . . danger seems to be too great a respiratory resistance in a patient already breathing with difficulty. Possibly, . . . warming the air is as important as filter-ing it. A bronchitic's room should . . . be well heated, even if he cannot wear a mask; . . . the method of heating should not entail sucking in more fog from outside; electric radiators are *particularly suitable*."

BCG Vaccination.—In 1949, official permission for the use of BCG vaccine was first given in this country for nurses and medical staffs in hospitals and (at the discretion of chest physicians) for the close home contacts of tuberculous patients. The Medical Research Council is also carrying out an extensive controlled trial among persons leaving school. The Minister of Health has now announced that he is prepared to approve plans for giving BCG vaccination to children before they leave school. Vaccination should be carried out by designated medical officers on the responsibility of the medical officer of health. It is to be given to children during and, if possible, toward the end of the year preceding their 14th birthday. This means that the child will be at school for at least another year before leaving and will therefore be under supervision. Parental permission must be obtained in writing before vaccination.

This announcement has come as a surprise to many, in view of the conservative attitude of the Ministry of Health's advisors on the subject. Cause for such surprise is, however, greatly diminished on reading the accompanying memorandum on the subject, which so damns the process with faint praise that he will be a brave medical officer of health who will take advantage of this new dispensation. As typical of the official attitude of Great Britain on BCG vaccination, a few extracts from this memorandum may be of interest. It starts off with the dogmatic statement that despite the vast number of vaccinations that have been performed with either liquid or lyophilized vaccine during the past 20 years, there is no scientific evidence of its value. On the other hand, it is conceded that "from the work that has already been done on the vaccine it can be generally assumed that the preparation, in the doses usually prescribed, is harmless. It may also be reasonably accepted from trials abroad that the vaccine confers some degree of protection against the first infection with virulent M. tuberculosis. It is, therefore, probable that vaccination will lower the incidence of active primary tuberculosis in its various clinical manifestations, in particular, such forms as meningitis, miliary tuberculosis and primary tuberculous pleurisy. There is much less conclusive evidence that vaccination protects against subsequent super- or reinfection, although there are observers who believe that the development of postprimary tuberculosis is rendered less severe by inoculation. There is no absolute scientific proof in countries where the vaccine has been extensively used over many years that the fall in the tuberculosis mortality figures is due to BCG. In a number of countries where no BCG has been used there has been an equally rapid decrease in the number of deaths from tuberculosis. There are some who claim that BCG vaccination confers no benefit upon the individual and that all the apparent improvement in the incidence and mortality figures following mass vaccination is due to the collateral influence of other factors, such as the increased medical observation and improved living conditions and selective sampling. It is possible that those vaccinated are already a selected group, as an unknown number of the positive reactors of the population has already developed active disease. The most susceptible have therefore already been removed from the material under survey."

It is considered "unwise at this stage to extend the scheme generally to newborn infants: first, because it is in many instances unnecessary; secondly, because BCG vaccination removes completely the value of the tuberculin test in diagnosis; thirdly, because in the absence of subsequent infection the post-vaccination tuberculin sensitivity tends to wane and eventually disappear so that re-testing at frequent periods is necessary, and fourthly, because the complication rate is higher in newborn infants than in the older age groups, probably due to the greater difficulty in performing the intradermal injection and the slow development of the defensive mechanism."

It is recommended that two prevaccination intradermal tuberculin tests should be carried out, using purified protein derivative (Seibert), 0.00002 mg. (0.1 ml. of tuberculin) and 0.0002 mg. (0.2 ml. of tuberculin). The liquid vaccine is obtained from the State Serum Institute, Copenhagen. For some reason it is not made in this country. As the National Association for the Prevention of Tuberculosis points out in its annual report, "This seems astonishing when it is realized that the vaccine is produced in Canada, the U. S. A., India, Ceylon, Australia, Singapore, Indonesia, Turkey, China, Japan, three South American countries, the U. S. S. R., and at least ten European countries."

Vaccination is to be carried out by strictly intradermal injection. As a general rule, segregation of school children is not considered necessary, except when the child is living in close contact with a person with infectious tuberculosis. There is considered to be no need to make roentgenograms of vaccinated children routinely unless complications develop. Constitutional reactions are stated to be extremely rare, and the incidence of local reactions is put at 0.3%.

Plea for Decentralization of Hospital Control.—In a memorandum prepared for the Hospital Discussion Group by a working party of hospital administrators and published in *Lancet* (2: 1035, 1953), a plea is made for increased decentralization in the control of hospitals under the National Health Service. As an example of the present excessive degree of decentralization, attention is drawn to the fact that between July, 1948, and the end of 1952, the total number of circulars issued by the Ministry of Health was 656 to regional hospital boards, 583 to hospital management committees, and 598 to boards of governors of teaching hospitals. This is about one circular every three days to every hospital in the country. As the memorandum comments: "Few will deny that 'The formulation of policy in its major features' is the proper function of the Ministry, but is it essential for the Ministry (as opposed to a regional board or management committee) to issue detailed guidance on such matters as supply of razorblades to patients, issue of sweets to children, provision of telephones for hospital staff, washing-down of walls and paintwork, and detailed control of establishments? Complete standardization on such matters, and on many others, makes for administrative convenience and tidiness at the expense of individual judgment, initiative, and responsibility. Detailed control and advices on these aspects of hospital life could safely and more satisfactorily be left to the individual authorities or their officers."

In the financial field, centralized control in its present form is considered "generally reasonable," but a plea is made for a system of five-year grants for building maintenance and capital expenditure. Strong exception is taken to the attempted application of civil service methods to hospital administration. "What appears to cause both difficulty and antagonism at the present time is the tendency for the Civil Servant to apply to every level of the hospital service the methods of impersonal administration that are suitable for the central functions of the Ministry, but not for the day-to-day management of individual hospitals or hospital groups." An appeal is also made for a greater degree of delegation of power from the regional hospital boards to hospital management committees. There must be a certain amount of central control by the regional boards, but "it should be the policy to give to the management committees as much freedom as possible and to avoid interference in the details of day-to-day administration."

Tuberculosis in Scotland.—A depressing picture of the prevalence of tuberculosis in Scotland is given in the 39th annual report (1952-53) of the Royal Victoria Hospital Tuberlosis Trust for the Care and Prevention of Tuberculosis throughout Scotland. The mortality figures as a whole are favorable. In 1952 the death rate from respiratory tuberculosis was 27 per 100,000 of the population, and from nonrespiratory tuberculosis 5 per 100,000, giving a mortality from all forms of the disease of 32 per 100,000, which is the lowest figure on record. Nevertheless "there is a much more sinister side to the problem of respiratory tuberculosis." The death rate from tuberculosis of the lungs in young men from 15 to 24 is half as much again as it is in England, and the mortality among young women in this age-group is twice as high. The position in relation to new cases is also very disquieting. The provisional figure for cases of respiratory tuberculosis reported in 1952 was 7,259, compared with 7,776 in 1951 and 8,653 in 1949. The annual number of notifications, though falling, is still over 60% higher than it was in 1936. Half of the new cases are among young persons. The situation is even worse than the provisional figures suggest, because in 1936, only 74% of the notifications were subsequently confirmed, whereas in 1951, 97% were confirmed. It is estimated that the increase in new cases between 1936 and 1951 is about 110%. The contribution of cases found by mass miniature radiography to this increase is considered to be insignificant compared with the number found in routine medical practice.

"The Committee, therefore, wish to state again with all the emphasis they can command that the publicising each year of overall death-rate figure which is stated to be yet another low record for tuberculosis does a public disservice, since it creates in the mind of the people the erroneous impression that tuberculosis is 'on the run.' The information that the annual number of confirmed new cases and the total number of known sufferers are over twice what they were before the war receives less publicity. The fact that in Scotland the statistics are worse than in most countries of Europe from which reliable figures are available is little appreciated."

Actinomycosis in Scotland.—According to I. A. Porter (*Brit. M. J.* 2:1084, 1953) a survey of hospital records revealed the occurrence of 186 cases of actinomycosis in Scotland during the 13 years from 1936 to 1948. A total of 98 patients came from the northeast of Scotland, which is predominantly agricultural and has a population of 444,000. The remaining 88 patients came from the rest of Scotland, which has a population of 4,398,000. There was no significant difference in the rate of attack between residents in the large towns and residents in the small towns and rural areas in the northeast area, but in the rest of the country there was a significantly higher attack rate in the smaller towns and rural areas than in the large towns. Of the 173 patients whose occupations were known, 39 were in agriculture—a higher incidence than that of any other occupation. The ratio per 100,000 for male agricultural workers was 146 in the northeast area, 29 in the rest of the country, and 50 for the entire country. The comparable figures for nonagricultural workers were 33, 3.3, and 5.2. Just over half the cases (94) were in the 10 to 29 age-group, and 78% of the patients were male. The cervicofacial region was most commonly affected (65%), followed by the abdominal region (19%). In 22 instances the disease appeared in the cervicofacial region following dental extraction, and in another 33 patients carious teeth were noted. In 23 of the abdominal cases there was a history of an associated appendectomy, and in two of an appendiceal abscess.

Hospital Independence.—Mr. Macleod, Minister of Health, announced that he has asked the committee inquiring into the cost of the National Health Service to consider a new method of financing state hospitals. The method is a block grant system similar to that used for universities. If such a change were approved by Parliament, hospitals would gain much in independence and freedom. At present yearly estimates must be sent to the Ministry of Health, which can and does reduce them. Any unspent balance at the end of the fiscal year may not be carried forward. This form of financing, with ultimate control vested in the Ministry, imposes a rigid pattern on hospital planning and expenditure.

If block grants covering a number of years, made by a body resembling the University Grants Committee, were substituted, hospitals would be freed of direct government interference. They would also enjoy more latitude in planning and incurring expenditure. Mr. Macleod, in making his announcement, confessed that he had not made up his mind on methods of financing.

New Cancer Research Laboratories.—The Imperial Cancer Research Fund was founded in 1902, under the direction of the Royal College of Physicians of London and the Royal College of Surgeons of England. It was one of the first organizations to undertake experimental research in its own laboratories. It first occupied rooms in the Royal College of Surgeons. Its scope and activities gradually extended until, in 1939, a block of modern laboratories was built and opened at Mill Hill on the northern side of London. In 1951, the council of the fund decided to foster and support special investigations on outstanding problems of cancer in human pathology. Since the subjects chosen for investigation were closely related to the surgical treatment of human cancer, it was decided that this work should be begun in the pathology department of the Royal College of Surgeons. Under the direction of Prof. G. Hadfield, the work expanded rapidly, and additional space was provided by renting from the Royal College of Surgeons the house at no. 48, Lincoln's Inn Fields. The new laboratories were officially opened on Nov. 10 by Prof. H. R. Dean of Cambridge, the dean of English pathology and chairman of the council of the fund. The work will be integrated with the experimental work done at the Mill Hill laboratories under the direction of Dr. James Craigie and with observations made on clinical material from the London teaching hospitals.

MEXICO

Leprosy in Mexico.—Although not comparable in importance to tuberculosis and malaria, leprosy is still a public health problem in Mexico. For that reason the Department of Public Health and Assistance has a special organization to fight this disease, called the National Campaign Against Leprosy. Some of its activities, as well as other facts concerning leprosy in Mexico, were pointed out recently by Dr. Roberto Núñez Andrade, in the *Gaceta Médica de México* (83:5, 1953).

Before the arrival of Spanish conquerors leprosy did not exist in Mexico. It is likely that it was brought in by the conquerors and by African and Antillean Negro slaves in the early part of the 16th century, when it first was recognized in the Yucatán península. Travelers from the Philippine Islands, Japan, and China spread leprosy along the Pacific coast.

The number of patients with leprosy officially registered at the National Campaign Against Leprosy offices up to Dec. 31, 1952, was 11,087. The highest leprosy rate is found in the state of Colima, with 310.8 patients per 100,000 population. The rate for Mexico as a whole is 40.7 per 100,000.

Many regions in the country have not been intensively surveyed yet, and there is sometimes a disinclination to give information to health officers. It is conceivable that there are over 50,000 persons with leprosy in Mexico. About 66% have the lepromatous type; about 20% the tuberculoid; and the type of the remaining 14% is undetermined. Ninety per cent of the patients are adults. The disease is rare in persons of pure white or pure Indian blood; 98% of persons with leprosy are "mestizos." Almost 100% of the patients are classed as poor. Most of the registered male patients are farmers, city workers, or clerks, and most of the female patients are engaged in housework.

The National Campaign Against Leprosy has a leprosarium, 4 special wards in general hospitals, and 19 dispensaries for treating the disease. Through these facilities it has been possible to isolate 3.6% of the patients in the leprosarium and 1.3% in the wards. Specific treatment with the sulfones has been carried out in 13.7% of the patients, and 0.06% have been released at its completion. Private contribution has added three segregation homes, which house about 60 healthy children separated from their parents since birth. There is still a high death rate among the patients from such causes as generalized dissemination of the disease, cachexia, enterocolitis, lobar pneumonia, nephritis, cardiac insufficiency, pulmonary tuberculosis, edema of larynx, and cancer.

National Congress for the Protection of Children.—The first National Congress for the Protection of Children was held at Mexico City, Aug. 9 to 15. It was organized by the Department of Public Health and Assistance and sponsored by the President of the Republic. The main purpose of the congress was to draft a federal code for the protection of children. The present status of the law protecting children in Mexico, children's social medical care, educational protection, child labor, and the care of disabled children were among the problems discussed.

SWEDEN

Intoxicated Motorists and Pedestrians.—In 1949 a government committee was appointed to investigate the part alcohol plays in causing traffic accidents. The committee undertook a statistical study of the persons convicted of driving under the influence of alcohol between July 1, 1948, and June 30, 1949. Much other material was studied, and recommendations were made with a view to reducing such accidents. These recommendations reflect the committee's desire to tighten up already existing regulations. It was argued that the concentration of alcohol in the blood should be investigated not only in motorists but also in bicyclists, drivers of horse-drawn vehicles, railway engines, trams, ships, and airplanes, and other persons dealing with such vehicles. A concentration of alcohol in the blood as low as 0.05% should count in weighing evidence against suspects, and the police should have the right to test a driver's sobriety by measuring his expired breath by means of the so-called drunkometer.

Having been invited to comment on the recommendations of this committee, the Swedish Medical Association expressed grave doubts regarding the 0.05% level of blood alcohol, for it is doubtful if what is called the criminalization of persons showing this level will contribute to greater traffic security. In view of the American investigations (Holcomb's) and other observations, the level should be raised to 0.1%; on the other hand, it would be well for responsibility for traffic accidents to be extended to the pedestrian whose consumption of alcohol may have contributed to them. All persons involved in traffic accidents, including the driver of a push bicycle, should come under the same law in respect to alcohol consumption. Use of the drunkometer by the police should not be extended to an attempted estimate of the degree of the effect of alcohol but should be limited to determining the presence or absence of alcohol in the breath. The Swedish Medical Association also recommends further study of the factors contributing to traffic accidents.

Legal Abortion Statistics.—The government committee appointed in 1950 to study the problems of abortion, legal and illegal, issued a memorandum on the subject in September. In his comments on this memorandum in the organ of the Swedish Medical Association, *Svenska Läkartidningen,* Dr. Gunnar Berg quotes some impressive figures. The new law of 1938 concerned with legal abortions was not reflected in a marked rise of their number till 1943, when they numbered 703. There was a marked rise in the following years, and it culminated in 1951 with 6,328 or 58 legal abortions per 1,000 parturients. This number fell to 5,322 in 1952, and the figure for the first quarter of 1953 was smaller than that for the first quarter of 1952. This fall appears to reflect an increased tendency on the part of the medical authorities to reject applications for legal abortion, for in 1949 only about 13% of these applications were rejected, whereas the corresponding figure for 1951 was about 16% and for 1952 about 21%. In the same period there has been a fall in the total number of applications, from 6,884 in 1951 to 6,201 in 1952. Spontaneous or illegal abortion occurred among 21.9% of the 759 women whose applications for legal abortion in 1947 and 1949 were refused.

It is remarkable how greatly the indications for legal abortion have varied between 1940 and 1950. In 1940 as great a proportion as 71.9% of the indications for legal abortion was disease or some bodily ailment, while the corresponding figure for 1950 was down to 30.2%. Eugenic indications fell from 23.7 to 9.2% in the same period and humanitarian indications from 1 to 0.3%. On the other hand, weakness or general debility was an indication for legal abortion in only 3.4% of the applicants in 1940, whereas the corresponding figure for 1950 was 50.7%. Certain general principles seem, however, to be gaining general credence, and in the above-mentioned memorandum there is a recommendation for the obligatory adoption of sex education in all the schools and free medical advice on contraception. It is noted that knowledge of the qualitative merits of contraceptives has not advanced in pace with the gains made by medical research in other fields. The public authorities, therefore, would do well to provide the means for further scientific research concerning contraceptives.

The Prognosis for Lobotomy.—At the Lillhagen Hospital, Gothenburg, lobotomy has been undertaken on so many patients since 1946 that it is now possible to calculate approximately the ultimate prognosis for the patients operated on. In 1951, Dr. Sven Foltmann published a preliminary report on the first 100 women patients operated on between 1946 and 1950. In *Nordisk Medicin* for Oct. 15, 1953, he has brought his figures up to date and has shown how necessary it is to allow an observation period of some years before evaluating the final results. After withdrawing 3 cases for various reasons, he follows the fate of the remaining 97 bilateral cases, 55 of which were operated on according to the Freeman and Watt technique and 42 according to the Lyerlys technique. There were 71 cases of schizophrenia and 22 cases of psychopathy. The psychopaths fared better than the schizophrenics, the former including 19 patients with some improvement and only 3 who were not improved. The schizophrenics included 18 patients who were not improved. Although the prognosis became worse with the length of hospital treatment in the schizophrenic group, this time factor was of no great importance in the psychopathic group. The length of the interval between the first appearance of symptoms and the lobotomy averaged 13 years (range 1½ to 32 years). The interval between admission to hospital and the lobotomy averaged 7½ years. The patient's age was not found to influence the prognosis.

With an observation period of 2 to 7 years after the lobotomy Foltmann admits worse results than those of his preliminary report. Eleven patients who had been discharged from the hospital had to be readmitted because of relapse. The six psychopaths readmitted could be discharged again after 2 to 13 weeks with almost as much improvement as on their first postoperative discharge, but the five schizophrenics who were readmitted to the hospital because of relapse fared much worse, since they were no better than they had been before the operation and had to be retained in hospital in spite of shock treatment. Foltmann also concludes that a study of the premorbid personality of candidates for lobotomy may prove helpful in forming a prognosis. He also describes an amnesic-anosognosic syndrome that may be the outcome of lobotomy.

Plastic Dressings for Burns and Operative Wounds.—Since the autumn of 1952, Dr. Bertil Olow and Dr. Karl-Erik Hogeman have been testing plastic dressings for burns at the University Hospital in Malmö. By painting or spraying a plastic solution they have succeeded in covering burns with a thin transparent film that adheres to the surrounding intact skin but not to the burn itself. This film has remained adherent to the intact skin for up to 15 days, and meanwhile the healing processes of the sterile burn can be watched daily through the film. These tests are still in a preliminary stage, and hitherto the ability of a film to keep its place over a joint about which there is some movement has not been satisfactory. Experiments are, therefore, being continued in this connection and also in view of any possible toxicity that the constituent elements of the film may present. Dr. Elis Lewin of Gothenburg has experimented since 1947 with plastic dressings for operative wounds. After the usual preoperative treatment of the patient's skin, he paints it with a plastic solution that is also applied to a plastic film of suitable size. After about 30 seconds, when the plastic solution has dried, the transparent film is applied to the skin and becomes firmly adherent. At the completion of a laparotomy, sutures of the skin can be carried through this film if necessary, but it also can be easily removed. A new application of the plastic solution can also be made after the abdominal wall has been sutured, but as yet this easy method of applying a dressing has not been widely adopted.

CORRESPONDENCE

SURGICAL SURVIVAL

To the Editor:—The editorial in the Oct. 24, 1953, issue of THE JOURNAL, "Surgical Survival of the Young and of the Aged," contains a passage that states that elderly patients are more susceptible to anoxia than young patients. This statement is open to debate.

Experiments of German investigators (Rüff, S.: Grundriss der Luftfahrtmedizin, Leipzig, 1944, J. A. Barth, p. 94) in the medium of low pressure chambers, in combination with graduated exercise tests within them, showed that tolerance to oxygen want uniformly increases, that is, susceptibility to anoxia decreases with advancing age. As previously stated (May, S. H.: Air Travel and the Cardiac Patient, *Am. Heart J.* **40**:363, 1950), this should not be too surprising. Variations in oxygen tension and acid-base equilibrium of the blood are chiefly controlled by the chemoreceptor fibers in the aortic and carotid bodies. It must be thought that the challenge to these nerve structures, which is ever-increasing with age, leads to a higher degree of conditioning and/or effectiveness. These reflexes become even more active when pathological conditions such as circulatory or respiratory distress demand constant vigilance. The increased tolerance to oxygen want in older persons is also confirmed by the reduced electrocardiographic changes to gradually increased oxygen want in the higher age groups of healthy persons (May, S. H.: Electrocardiographic Response to Gradually Induced Oxygen Deficiency: I. Response of Normal Hearts in Various Age Groups, *Am. Heart J.* **17**:667, 1939). Probably it may be precisely the decreased susceptibility to anoxia that largely contributes to the amazingly high survival rate of the aged in surgery.

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PATIENTS WITH CANCER

To the Editor:—The article "What Philadelphia Physicians Tell Patients with Cancer," THE JOURNAL, Nov. 7, page 901, is very timely and well prepared. The last paragraph stating that studies are needed to determine which patients with cancer might benefit by being told that they have cancer leads me to believe that the authors are not totally in agreement with the view given by the majority of their medical associates in Philadelphia. I would like to refer to an article published in *The Journal of the Indiana State Medical Association*, April, 1953, entitled "Should Patients Be Told When the Diagnosis Is Cancer?"

I conducted a survey of patients (477) between the ages of 18 and 90 of this area to determine if patients desired to know whether or not they had cancer, whether they desired that their close relatives be told if they were afflicted with cancer, whether they actually thought persons with cancer could be fooled into thinking they did not have it, and who they thought should tell the patient about the diagnosis of cancer. I prepared a questionnaire with room on it for answers and reasons. In general, the greatest number of persons not only desired the truth but also desired that their close relatives be informed. A large majority did not feel that patients could be fooled. An overwhelming number thought the physician should be the one to tell the patient the facts about his illness. There were many extremely thought provoking comments by the patients; a few are included in the article. Many persons expressed the desire for cooperation between the physician, minister, and close relatives in handling the situation. There was no great difference of opinion among age groups and sex, but there was definite evidence that the age group 18 to 35 and that women more than men seemed to express greater trust and confidence in their physician. The age group 36 to 50 seemed more cancer conscious than other age groups. Answers did not seem to vary with occupations or religions however, persons of the business and professional groups gave more extensive reasons for their answer. Patients repeatedly expressed the desire for truth, conscientiousness, morality trustworthiness, and a Christian attitude on the part of th physician when handling cancer problems and all patient doctor relationships.

It is my firm opinion that the patient's desires should b followed in this matter rather than the physician's. There ar very few exceptions. Reasons for the patient's knowledge o his condition are given in the article mentioned, as well a the exceptions. I found that patients have reasons for wantin to know the truth about whether or not they have cancer fa more numerous and important than physicians ever dreame of. Patients have shown that they can take it better than th dreadful fear and indecision of whether their physician i trying to shield them from the fact that they actually hav cancer. Beside that, the type of treatment employed usuall is indicative to an intelligent patient that he probably ha cancer.

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EXCHANGE TRANSFUSION IN HEMOLYTIC DISEASE OF THE NEWBORN

To the Editor:—Any case of erythroblastosis fetalis shoul be taken under care prenatally. Every pregnant woman shoul have her Rh blood type ascertained. If she is Rh negative an her husband is Rh positive, blood should be drawn in the thir month of pregnancy to test for the presence or absence o antibodies to the Rh factor and to be used as a basis fo comparison with subsequent samples. This should be don even in primiparas, because of the possibility of previou transfusion with Rh-positive blood, of its intramuscular injection, or of a previous undiagnosed incomplete pregnancy Other titers may be obtained according to individual discretion but at least one titer should be obtained in the seventh month of pregnancy for comparison. If there is a rise in titer, hemolytic disease should be anticipated. Generally speaking, thos women with the highest rise in titer will deliver the mos severely affected infants, but there are rare exceptions to thi rule.

If the rise in titer is late (32 weeks or later), the questio of induction of labor at 38 weeks arises; this is a controversia point, but should be considered especially if the rise is hig and precipitous, always remembering that prematurity carrie with it a higher incidence of kernicterus. A titer drawn fou to six weeks post partum may show a rise, even if no antibodies were noted during pregnancy. This should be note for future use. If there is a titer carryover from a previou pregnancy, with no rise in titer during the present pregnancy hemolytic disease should still be anticipated, although, if the husband is heterozygous for the Rh factor, the child may be Rh negative. Rh-negative blood that is compatible with the mother's serum should be available for transfusion, since it is her antibodies that are responsible for the red blood cell destruction in the child.

When a child of an Rh-negative mother is born, a hemoglobin specimen should be taken from the cord rather than from a capillary (this varies greatly with the time of tying of the cord). A Coombs' test should be done on heel or venous blood from the infant, as well as a complete blood cell count, reticulocyte count, and serum bilirubin determination. (Cord serum bilirubin levels are unreliable, since the bilirubin may escape into the maternal circulation.) In the presence of a positive reaction to a Coombs' test, which indicates that the maternal antibodies are attached to the infant's red blood cells, the indications for exchange transfusion are one or more of the following factors: (1) a cord hemoglobin of less than 14.5 gm. or a capillary hemoglobin of less than 15.5 gm. at birth; (2) previous history of erythroblastosis in a sibling; (3) prematurity; (4) reticulocytosis over 10%; (5) bilirubinemia over 20 mg. per 100 cc. in first 24 hours or an increase of serum bilirubin at a rate of 1 mg. per 100 cc. per hour; and (6) clinical picture of hepatomegaly, splenomegaly, jaundice, edema, petechiae, and pallor.

The most recent writings on this subject do not discuss the relative merits of multiple small transfusions and exchange transfusion. It has already been established to the satisfaction of Diamond, Levine, Mollison, Cutbush, and others that the clinical course of hemolytic disease of the newborn cannot be forecast and that the results are much better if exchange transfusion is done on all infants that require therapy. In experienced hands, this procedure is not unduly traumatic or of excessively long duration. Aftercare in these patients must be very close. Hemoglobin and serum bilirubin determinations must be repeated frequently (as indicated by results of previous determinations). If anemia recurs, a small transfusion is indicated. If the serum bilirubin level rises beyond 20 mg. per 100 cc., another exchange transfusion is indicated. This happens rarely, but the possibility must be considered.

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CHLOROPHYLL AND DEODORIZATION

To the Editor:—An editorial entitled "Chlorophyll and Deodorization" in the Oct. 24 issue of The Journal quoted incorrectly from my paper presented before the American Dental Association annual meeting on Sept. 29, 1953. The correct quotation, with the word "protective" reinserted, was "Claims that toothpastes containing chlorophyll can give a protective deodorizing effect for several hours should be viewed with suspicion." The point I was trying to make, and which is missed in the misquotation, is that, since most of the toothpaste placed in the mouth on a toothbrush is quickly diluted by water and saliva, it is expecting a little too much that the amount remaining in the mouth after several hours will offer important protection against new odor agents placed in the mouth. While the deodorizing properties of chlorophyll derivatives have not been a major concern of my research with these materials since 1948, it has been my experience that the majority of samples of chlorophyll derivatives I have worked with will deodorize many substances, if brought in contact with them in sufficient concentration, either in vitro or in the oral cavity.

It is probably a form of justice that the overextravagant promotion of these materials has resulted in an almost fanatic skepticism toward any positive research findings concerning chlorophyll derivatives. Since two wrongs do not make a right, however, I felt it pertinent to point out the correction in respect to the quotation from my paper and my position in respect to deodorization as expressed in the paper.

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To the Editor:—I was interested in the editorial "Chlorophyll and Deodorization" in The Journal, Oct. 24, 1953, and the correspondence in the same issue. It is understandable that the wide claims for the deodorizing properties of the agent are being questioned. I think it would be a good idea to question some of the other claims that have been made for chlorophyll preparations, especially those relating to an alleged effect on wound healing. I am not familiar with a single clinical or experimental study that has proved conclusively that chlorophyll is beneficial. It is true that many wounds have healed under a chlorophyll ointment, but no untreated control wounds were provided. During World War II, a burn study unit at the Henry Ford Hospital undertook to evaluate chlorophyll, with wound healing experiments on guinea pigs and in clinical wounds of many types (Lam, C. R., and Brush, B. E.: Chlorophyll and Wound Healing: Experimental and Clinical Study, *Am. J. Surg.* 80:204, 1950). It was our conclusion that it could not be demonstrated that chlorophyll has a therapeutic effect.

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PLASTIC REAGENT BOTTLES FOR ALKALIS

To the Editor:—Anyone who uses strong alkalis, such as sodium hydroxide solution—and this includes most practitioners and medical technicians—wishes at times to avoid somehow the etching properties of these reagents. Because of the etching properties, the inner surface of a glass bottle is dissolved and smudged. The reagent itself becomes a complex suspending a brackish waste that interferes with proper usage. I found it necessary to renew the sodium hydroxide solution in my laboratory every two weeks, and that became a nuisance. These strong alkali reagents are by far the most useful in the everyday hunt for fungi when examining and diagnosing cutaneous lesions and eruptions and excretions from the bronchial tree, lungs, and gastrointestinal tract. Numerous other tests and procedures in the medical and chemical laboratory depend on the availability of a supply of strong alkali solution.

Plastics today are commonplace and are fashioned into a thousand and one objects. They can substitute for practically any structural material. Plastic containers for cosmetics and commercial products fill the shelves of shops and possess very obvious advantages, such as light weight, lack of fragility and brittleness, and the capacity to change shape slightly and therefore to fit in spaces better than rigid glass. Beside, plastics are relatively inert and, unlike glass, do not react with strong alkali. Bottles made of these newer materials should be ideal for storing these reagents. In our laboratory, this was tested, and it was found that strong alkali, such as sodium or potassium hydroxide, solutions keep almost indefinitely without spoiling. Bottles for the purpose come in various styles, shapes, and sizes with short or drawn out necks that open into wide mouths or small tips to deposit even a drop or two. Strong alkali solutions slowly take up carbonic acid from the air and after a time lose part of their clarity; however, if the reagent bottle is kept well stoppered between use, the content remains clear and fresh for years.

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RUPTURE OF AORTIC ANEURYSM INTO ESOPHAGUS

To the Editor:—I have read with interest the article by Drs. Calenda and Uricchio on "Gastrointestinal Hemorrhage Due to Rupture of Aortic Aneurysm into the Esophagus" (*J. A. M. A.* **153**:548-549 [Oct. 10] 1953). These authors correctly emphasize the advisability of considering rupture of an aortic aneurysm in the differential diagnosis of hematemesis and melena. I doubt, however, that rupture of an aortic aneurysm into the esophagus is as rare as they have stated. Certainly more than five cases have been described in the world literature in the past 27 years. Baer and Loewenberg have reported cases of aortic aneurysm rupturing into the esophagus or duodenum (Loewenberg, S. A., and Baer, S.: *Am. Heart J.* **32**:653 [Nov.] 1946; Baer, S., and Loewenberg, S. A.: *Gastroenterology* **10**:617 [April] 1948). In addition, Dr. Harold L. Goldburgh and I discussed the gastrointestinal complications of dissecting aneurysm at some length (Baer, S., and Goldburgh, H. L.: *Am. Heart J.* **35**:198 [Feb.] 1948). Included in this report of 44 cases of dissecting aneurysm are at least 2 cases in which there was rupture of the aneurysm into the esophagus. I believe that a more detailed search of the literature will reveal several other cases in which an aortic aneurysm perforated into the gastrointestinal tract.

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COUNCIL ON MEDICAL EDUCATION AND HOSPITALS

ADDITIONAL HOSPITALS REGISTERED

The following hospitals were registered by the Council on Medical Education and Hospitals of the American Medical Association at its meeting in St. Louis, Nov. 30, 1953:

Ellis-Meyer Hospital Clinic, Decatur, Ala.
El Reposo Sanitarium, Florence, Ala.
Fitts-Hill Hospital, Montgomery, Ala.
Randolph County Hospital, Roanoke, Ala.
Mesa Sanitarium, Mesa, Ariz.
Crippled Children's Hospital, Phoenix, Ariz.
Mercy Hospital-Gozzolu Memorial, Brinkley, Ark.
Des Arc General Hospital, Des Arc, Ark.
Baxter County Community Hospital, Gassville, Ark.
Izard County Memorial Hospital, Melbourne, Ark.
Saltzman Hospital, Mountain Home, Ark.
Crawford County Memorial Hospital, Van Buren, Ark.
Cross County Hospital, Wynne, Ark.
Healdsburg General Hospital, Healdsburg, Calif.
Shriners Hospital for Crippled Children, Los Angeles
Westmoreland Sanitarium, Los Angeles
North Hollywood Maternity Hospital, North Hollywood, Calif.
Salinas Valley Memorial Hospital, Salinas, Calif.
California State Polytechnic College Hospital, San Luis Obispo, Calif.
Kit Carson County Memorial Hospital, Burlington, Colo.
Montrose Memorial Hospital, Montrose, Colo.
Simla Community Hospital, Simla, Colo.
Cove Hill Manor, Uncasville, Conn.
Hadley Memorial Hospital, Washington, D. C.
Arcadia General Hospital, Arcadia, Fla.
Manatee Veterans Memorial Hospital, Bradenton, Fla.
Memorial Hospital, Hollywood, Fla.
Grant Haven Convalescent Home, Jacksonville, Fla.
Galey Memorial Hospital, Key West, Fla.
North Shore Hospital, Miami, Fla.
Arlington City Hospital, Arlington, Ga.
Emanuel County Hospital, Swainsboro, Ga.
Carmi Township Hospital, Carmi, Ill.
Memorial Hospital, Carthage, Ill.
Belmont Rest Home, Chicago
Louis A. Weiss Memorial Hospital, Chicago
Mark Howard Home, Chicago
Ogden Park Convalescent Home, Chicago
Veterans Admin. Hospital, Chicago
Wrightwood Home, Chicago
Student Health Service, Northwestern University, Evanston, Ill.
New Glenview Convalescent Home, Glenview, Ill.
Condell Memorial Hospital, Libertyville, Ill.
Marion Memorial Hospital, Marion, Ill.
Whitley County Memorial Hospital, Columbia City, Ind.
Veterans Admin. Hospital, Indianapolis
Clarke County Hospital, Osceola, Iowa
Sioux Center Community Hosp. and Health Center, Sioux Center, Iowa
Lutheran Hospital, Sioux City, Iowa
Community Memorial Hospital, Sumner, Iowa
Hanover Hospital, Hanover, Kan.
Stevens County Hospital, Hugoton, Kan.
Wichita County Hospital, Leoti, Kan.
Cheyenne County Hospital, St. Francis, Kan.
Washington County Hospital, Washington, Kan.
Knox Hospital, Barbourville, Ky.
Clinton and Hickman County Hospital, Clinton, Ky.
New Castle Sanitarium, New Castle, Ky.
Methodist Hospital, Pikeville, Ky.
Henry Cook Pope Hospital, Richmond, Ky.
Clark County Hospital, Winchester, Ky.
Franklin Foundation Hospital, Franklin, La.
Jennings American Legion Hospital, Jennings, La.
Otis General Hospital, Cambridge, Mass.
Springfield Hospital, Springfield, Mass.
Memorial Hospital, Onekama, Mich.
Trenton Medical Hospital, Trenton, Mich.
Sandstone State Hospital, Sandstone, Minn.
Zumbrota Community Hospital, Zumbrota, Minn.
Cosby Hospital-Clinic, Iuka, Miss.
Watkins Memorial Hospital, Quitman, Miss.
Stone County Hospital, Wiggins, Miss.
Sheridan Memorial Hospital, Plentywood, Mont.
Cottage Hospital, Woodsville, N. H.
Hunterdon Medical Center, Flemington, N. J.
Franklin Hospital, Franklin, N. J.
Passaic County Welfare Home, Paterson, N. J.
New Jersey Neuro-Psychiatric Institute, Skillman, N. J.
Meadows Home for the Aged and Chronically Ill, Las Vegas, N. Mex.
Swedish Hospital, Brooklyn
Chronic Diseases Research Institute, Buffalo
Veterans Admin. Hospital, Syracuse, N. Y.
Angel Hospital, Franklin, N. C.
Shaw Memorial Hospital, Oxford, N. C.
Towner County Memorial Hospital, Cando, N. Dak.
Wood County Hospital, Bowling Green, Ohio
Fostoria City Hospital, Fostoria, Ohio
Edmond Hospital, Edmond, Okla.
Moton Memorial Hospital, Tulsa, Okla.
Pacific Communities Hospital, Newport, Ore.
Kalkhof Hospital and Clinic, Erie, Pa.
Valley Forge Heart Institute and Hospital, Fairview Village, Pa.
Wolffe Clinic and Hospital, Philadelphia
Dell Rapids Hospital, Dell Rapids, S. Dak.
Bristol Memorial Hospital, Bristol, Tenn.
Dan German Hospital, Franklin, Tenn.
Laughlin Clinic-Hospital, Greeneville, Tenn.
Kenneth Brown Hospital, Lewisburg, Tenn.
Henry County General Hospital, Paris, Tenn.
Matagorda General Hospital, Bay City, Texas
Bronte Hospital, Bronte, Texas
Hammond Memorial Hospital, Bryan, Texas
Driscoll Foundation Children's Hospital, Corpus Christi, Texas
Navarro Clinic-Hospital, Corsicana, Texas
Dublin Hospital, Dublin, Texas
Eastland Memorial Hospital, Eastland, Texas
Eldorado Clinic Hospital, Eldorado, Texas
Oak Lawn Hospital, Gilmer, Texas
Hamilton Clinic and Hospital, Hamilton, Texas
U. S. Air Force Hospital, Houston, Texas
Jenkins Clinic-Hospital, Hughes Springs, Texas
Jacksboro Hospital, Jacksboro, Texas
Hardin County Hospital, Kountze, Texas
Bucy-Glenn Clinic Hospital, Linden, Texas
Medical-Surgical Hospital, Lockney, Texas
Goodnight Hospital, Lubbock, Texas
Crockett County Hospital, Ozona, Texas
Rankin Hospital, Rankin, Texas
Gaines Clinic-Hospital, Seminole, Texas
Briscoe County Hospital, Silverton, Texas
Sinton Hospital, Sinton, Texas
Tomball Hospital, Tomball, Texas
Willapa Harbor Hospital, South Bend, Wash.
Washington State Penitentiary Hospital, Walla Walla, Wash.
St. Luke's Hospital, Bluefield, W. Va.
Staats Hospital, Charleston, W. Va.
Grant Community Hospital, Lancaster, Wis.
Attic Angel Nursing Home, Madison, Wis.
Wisconsin Neurological Hospital, Madison, Wis.
War Memorial Hospital, Powell, Wyo.
Memorial Hospital of Carbon County, Rawlins, Wyo.

BUREAU OF LEGAL MEDICINE AND LEGISLATION

MEDICOLEGAL ABSTRACTS

Scientific Tests: Conclusiveness of Paternity Test.—This was a bastardy proceeding. From judgments for the defendant, the plaintiff appealed to the Essex county court, law division, New Jersey.

The question to be decided by this appeal, said the court, is: In a bastardy proceeding, where the only issue is the paternity of the illegitimate child, is the result of a blood grouping test disproving paternity to be treated as a form of expert evidence not necessarily barring a finding of paternity contrary to the test result, or is it to be considered conclusive evidence of non-paternity?

In seeking the answer to this question, said the court, it is not necessary to be concerned with how such evidence should be considered in a criminal or quasi-criminal proceeding where the blood is obtained without consent or if, as has been suggested, the results of blood grouping tests should be treated differently in those types of proceedings than in civil proceedings. Although certain formal aspects of a bastardy proceeding resemble a criminal rather than a civil proceeding, and although dictum will be found from time to time to the effect that it is of a quasi-criminal nature, it appears settled in this State, as well as in a majority of our sister states, that a bastardy case is a civil proceeding. Furthermore, the parties here consented to the test. In fact, said the court, the test by Dr. Lester Unger was conducted pursuant to an order obtained by the plaintiff while the appeal was pending. The importance of determining the legal effect of a test result of non-paternity is brought into sharp focus by the record in this case. At the first trial in the court below a jury verdict in favor of the plaintiff was set aside by the trial judge. At the second trial, also before a jury, the magistrate directed a verdict in favor of the defendant on the basis of the result of the test performed by Dr. Philip Levine. In this court, although available, a jury trial was not demanded. While the case was pending on appeal here and before trial, the plaintiff applied for an order to have a blood grouping test conducted by Dr. Lester Unger, an expert of her own choosing. Being satisfied as to Dr. Unger's qualifications, an appropriate order was entered by this court, and his report setting forth his findings that defendant could not be the father of the child was admitted in evidence at the subsequent trial. Dr. Levine, one of the world's outstanding authorities in this field, testified at the trial in this court that the test conducted by him conclusively showed that defendant could not be the father of the child. Dr. Levine further testified that Dr. Unger is recognized as an outstanding serologist and fully competent to perform blood grouping tests. No suggestion is made that these tests were not properly conducted, and the record conclusively demonstrates that they were performed in accordance with the highest standards of accepted practice. Excluding the results of the blood grouping tests, the other evidence in the case preponderates in favor of the plaintiff, and, without these test results, the judgment of non-paternity entered in the court below would have to be set aside and a judgment entered here that the defendant is the father of the child born to the plaintiff.

It is universally accepted in medical and scientific fields, said the court, that the result of a blood grouping test disproving paternity or, to use the language of the statute, indicating definite exclusion of parentage, is not an expression of opinion upon which experts can differ but, rather, is the statement of a scientifically established fact. It is a scientifically established fact just as it is a scientifically established fact that the world is round. As such it should be accepted by the courts of law. For a court to declare that these tests are not conclusive would be as unrealistic as it would be for a court to declare that the world is flat. This a court of law whose prime function is to ascertain truth and administer justice should not do. Accordingly, it is held that the results of the blood grouping tests conclusively establish that the defendant is not the father of the illegitimate child born to the plaintiff.

The judgment in favor of the defendant was affirmed. *Ross v. Marx, 90 A. (2d) 545 (New Jersey 1952).*

BUSINESS PRACTICE

The following material is based on a public relations manual issued by the Public Relations Department of the American Medical Association.—Ed.

TO HELP THE PATIENT PAY

When a man wants to buy an expensive item such as a television set and he does not have ready cash, he often arranges to pay for the set on a weekly or monthly installment plan. Installment buying has become so much a part of the American economic system that there is no reason why medical care cannot be purchased in the same way. Although it is not being too mercenary to help a patient budget for his medical care if the physician's attitude toward the system is right, the suggestion must be implanted tactfully. Unless patients are undergoing extensive treatment, it is generally wise to encourage them to pay for routine visits before they leave the office. Most people come prepared to pay for the call but leave without paying because they hesitate to bring up the subject themselves. The doctor can smooth the way to payment and relieve patients' uncertainty by saying at the end of the visit: "My usual charge for an office call is ———. If you would like to pay today, please stop at my secretary's desk as you leave." Or, if the patient stops at the secretary's desk to make another appointment, the secretary can say: "Would you like to pay for your visit today?" as she reaches for her receipt book. Encouraging pay-as-you-go plans eases the strain on the patient's pocketbook and cuts billing and collecting procedures in the doctor's office.

Patients who cannot pay for their medical care immediately should be given an opportunity to arrange payment plans to suit their needs. Payment plans that allow the patient to pay a certain amount over a period of time make it easier for him to meet the unexpected cost of illness. It is not necessary to use such commercial terms as "installment buying" or "time-payment plans." When a patient is upset at the prospect of paying your fee, it may be suggested: "Mrs. Smith, if you think you will have difficulty paying for your treatments at one time, we can work out some special arrangements." The patient probably will ask what you have in mind, and the discussion very naturally eases into types of payment plans. Payment plans can be handled in the office by the physician and his secretary. For example, in fixed fee cases such as immunizations and periodic check-ups of infants, it is easy to work out an installment plan by dividing the total sum by the probable number of calls or number of months during which care will be provided and asking the patient to pay a portion of the sum at monthly intervals or at each visit. Suppose a patient comes to the office during the third month of pregnancy. She can work out a seven-month payment plan with the doctor and make her last payment correspond with her last postnatal visit.

When the time element is not definite, a 10 month or 12 month period is usually agreeable to both patient and physician for budgeting medical care. The physician must carefully explain just what medical services are being provided for the monthly sum, however, so that should an emergency arise that requires additional treatment during this period, the patient is not angry when he finds he must pay a larger sum than that agreed on. Sometimes a physician can offer an installment plan to patients who are several months behind in their payments. A doctor might send a little card with a message reading something like this: "Instead of mailing you your statement, I am sending you this card so you can remit small monthly payments to clear up your account. Just return your check or a cash amount with this card, and we will receipt it and return it so you can use it again next month." This informal approach is much less frightening than a formal promissory agreement, and the patient usually is relieved that his medical bills can be settled so easily.

Banks, reputable loan companies, and other organizations sometimes offer plans for financing medical bills. Medical societies, too, in some areas have set up medical credit bureaus to help patients meet their medical obligations. These organizations usually pay the doctor in full for his services and lend the money to patients at a small rate of interest. Physicians often deduct the interest charges from their fees. The doctor may suggest to his patient that such plans are available and perhaps give a card of introduction to the bank or bureau if the patient is interested. There are certain dangers in outside financing of medical bills—unscrupulous organizations could press patients for payments in an unethical way, creating bad feeling. The physician should carefully investigate any such available plans and determine if their use is justified. However, ethical plans can be a real service to patients who honestly want to pay their medical bills.

MEDICAL MOTION PICTURES

The Warning Shadow: 16 mm., color, sound, showing time 16 minutes. Produced in 1953 by Herbert Kerkow for the American Cancer Society and the National Cancer Institute. Procurable on loan from the American Cancer Society, 47 Beaver Street, New York 4.

This is a fine picture of a dramatic subject. The opening portion, dealing with the first successful pneumonectomy on a patient (who happened to be a doctor), has simplicity and a sincerity that carries conviction. The average layman, to whom this picture is directed, will be much impressed by the fact that a physician had the same problem as the layman when considering an operation of such severity. The fact that neither the patient nor the surgeon discussed in the picture are actors adds an authenticity to the story that cannot be secured by statistics or scientific detail. Later on, a group of successfully treated lung cancer patients are shown. These persons, who are now apparently healthy, may be the means of saving the lives of thousands of others. It is not a technical picture and should not be considered as such. The information presented is sufficient to stimulate interest and action on the part of a possible patient and, most important, refer him to his doctor for information and diagnosis. This picture is heartily recommended for lay groups of either men or women. The photography and narration are excellent.

MEDICAL LITERATURE ABSTRACTS

UNITED STATES

A.M.A. Am. J. Diseases Children, Chicago

86:395-552 (Oct.) 1953

*Reactions Following Antirabies Prophylaxis. N. H. Blatt and M. H. Lepper.—p. 395.

*Electrophoretic Analyses of Plasma or Serum Proteins of Rheumatic Fever Patients in Relation to Stages of Disease. R. L. Jackson, H. G. Kelly, E. K. Smith, P. Wang and J. I. Routh.—p. 403.

New Treatment for Atelectasis of Newborn. W. G. Love Jr. and B. Tillery.—p. 423.

Growth and Metabolism in Normal and Thyroid-Ablated Infant Rhesus Monkeys (Macaca Mulatta). L. B. Lusted, D. E. Pickering, D. Fisher and F. S. Smyth.—p. 426.

Completely Automatic Miller Aerosol Device. C. M. Trossman.—p. 436.

Reactions Following Antirabies Prophylaxis.—Reactions to rabies vaccine developed in 16 patients, all but one of whom came from a group of 2,193 persons who received antirabies inoculations from the Chicago Health Department in 1950, 1951, and the first three months of 1952. Eight patients had reactions without evidence of central nervous system involvement, and eight had reactions with such signs. One of this second group died, and three had residual neurological symptoms after treatment. The signs and symptoms of antirabies vaccine reaction indicating that therapy should be discontinued are principally occurrence of an otherwise unexplained fever, paresis, radicular pain, and headache. Any otherwise unexplainable complaint must be regarded as suspicious. An intradermal skin test using antirabies vaccine diluted to 1:10 was found to be positive in all patients in whom a clinical reaction to rabies vaccine developed; but it was positive in 60% of all patients being vaccinated. Persons who have not been inoculated with rabies vaccine have negative skin tests. Corticotropin was given to three of the patients with the most serious involvements. Two responded well, and the third, who received the drug late in the course of the disease, had only questionable benefit. It was suggested but not proved that corticotropin may have been effective in treating these patients.

Plasma or Serum Proteins in Patients with Rheumatic Fever.—A detailed study of the plasma or serum proteins of 77 children with definite rheumatic fever and five patients with chorea without other manifestations of rheumatic fever is reported. The total proteins and percentage composition of albumin, alpha$_1$ globulin, alpha$_2$ globulin, beta globulin, fibrinogen, gamma' globulin, and gamma globulin of the blood are given for patients in the following stages of the disease: (1) early acute without decompensation, (2) late acute without decompensation, (3) early, middle, and late subacute without decompensation or recent infection or exacerbation, (4) inactive without recent infection or exacerbation, (5) acute with decompensation, (6) early, middle, and late subacute without decompensation but with recent mild intercurrent infection or exacerbation, (7) active chorea only, and (8) remittent type in various stages. The changes in the serum protein components of the blood that take place along with the antibody response when a child's system adjusts to acute disease were found to have a definite pattern, as evidenced by the 205 plasma or serum specimens analyzed in the course of this study. The percentage composition of albumin, fibrinoge and the globulins alpha$_1$, alpha$_2$, gamma', and gamma markedly altered in the acute stage of the disease. The retur to normal mean values as the disease regresses is gradual f albumin, fibrinogen, and alpha$_2$ and gamma globulins; alph and gamma' globulins are elevated generally only in the acu stage. Changes in the percentage composition of beta globul are not correlated with the stages of the disease; the mea values for total proteins are slightly elevated for all subgrou of uncomplicated rheumatic fever and significantly elevated the late subacute stage. The mean values of serum prote fractions for the group of patients with inactive rheumat fever indicate that the patients as a group are capable normal protein metabolism.

A.M.A. Arch. Ophthalmology, Chicago

50:401-544 (Oct.) 1953

Comparative Chemistry of Aqueous Humor in Posterior and Anteri Chambers of Rabbit Eye: Its Physiologic Significance. V. E. Kinse —p. 401.

Simulated Progression of Visual Field Defects of Glaucoma. R. Mc Day and H. G. Scheie.—p. 418.

Type of Paralysis of Conjugate Gaze (Ocular Motor Apraxia). D. Cogan and R. D. Adams.—p. 434.

*Endogenous Uveitis in Children: Associated Band-Shaped Keratopat and Rheumatoid Arthritis. M. D. Davis.—p. 443.

Idiopathic Hypoparathyroidism and Cataract: Report of Four Cas A. S. Haft.—p. 455.

Hereditary Polymorphous Deep Degeneration of Cornea. H. B. McG and H. F. Falls.—p. 462.

Tumor of Optic Disk Associated with Neurofibromatosis: Presentation Case. R. H. Trueman and I. E. Rubin.—p. 468.

Anomalous Binocular Depth Perception Due to Unequal Image Brig ness. P. W. Miles.—p. 475.

*Hyperophthalmopathic Graves's Disease: Clinical Observations in Cases. T. R. Hedges Jr. and E. Rose.—p. 479.

Respiration of Ciliary Processes. A. deRoetth Jr.—p. 491.

Glucose Utilization of Retina. II. Influence of Various Hormones Glucose Utilization of Retina. W. Kornblueth, E. Yardeni-Yaron a E. Wertheimer.—p. 500.

Echinococcus Cyst of Eyeball. O. Litricin.—p. 506.

Endogenous Uveitis in Children.—The occurrence of acti endogenous uveitis was observed in five girls and seven bo between the ages of 5 and 15 years. The disease was diagnos as chorioretinitis without anterior segment involvement in of the 12 patients, while it was described as iritis or irid cyclitis, with or without posterior involvement, in the r maining 10. Of the 10 patients, 4 had definite concurre rheumatoid arthritis and 2 had a history of "arthritis" witho any residual joint deformity. No other causative factor w noted in any of these patients, except for sarcoidosis in on The cause was undetermined in the remaining four patient The anterior uveitis was of granulomatous type in two patient nongranulomatous in three, and of quiet serous type in fiv This last type was noted in most of the cases of iritis ass ciated with juvenile rheumatoid arthritis collected from t literature. Of the author's five patients with this last ty of anterior uveitis, three had definite rheumatoid arthrit one had a history of arthritis, and in one the cause was u determined. Two of the 10 patients with anterior uveit associated with typical rheumatoid arthritic deformities of th proximal interphalangeal joints bilaterally and sarcoid lesio on the extensor surfaces of both arms in one, and with synovi thickening of the enlarged right knee joint in the other, a described in detail. A brief review of the literature on th triad of band-shaped keratopathy, iritis, and juvenile rhe matoid arthritis is presented, and the association of rhe matoid arthritis with juvenile uveitis is stressed.

Hyperophthalmopathic Graves' Disease.—The clinical pictur of 19 patients with hyperophthalmopathic Graves' diseas reported on by Hedges and Rose was dominated by sever or progressive ocular signs. Proptosis was symmetrical in 1 patients and asymmetrical in 9 at the onset of exophthalmos Congestive signs were present without corneal damage i

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American Journal of Surgery, New York

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Annals of Internal Medicine, Lancaster, Pa.

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MEDICAL LITERATURE ABSTRACTS

UNITED STATES

A.M.A. Am. J. Diseases Children, Chicago

86:395-552 (Oct.) 1953

*Reactions Following Antirabies Prophylaxis. N. H. Blatt and M. H. Lepper.—p. 395.

*Electrophoretic Analyses of Plasma or Serum Proteins of Rheumatic Fever Patients in Relation to Stages of Disease. R. L. Jackson, H. G. Kelly, E. K. Smith, P. Wang and J. I. Routh.—p. 403.

New Treatment for Atelectasis of Newborn. W. G. Love Jr. and B. Tillery.—p. 423.

Growth and Metabolism in Normal and Thyroid-Ablated Infant Rhesus Monkeys (Macaca Mulatta). L. B. Lusted, D. E. Pickering, D. Fisher and F. S. Smyth.—p. 426.

Completely Automatic Miller Aerosol Device. C. M. Trossman.—p. 436.

Reactions Following Antirabies Prophylaxis.—Reactions to rabies vaccine developed in 16 patients, all but one of whom came from a group of 2,193 persons who received antirabies inoculations from the Chicago Health Department in 1950, 1951, and the first three months of 1952. Eight patients had reactions without evidence of central nervous system involvement, and eight had reactions with such signs. One of this second group died, and three had residual neurological symptoms after treatment. The signs and symptoms of antirabies vaccine reaction indicating that therapy should be discontinued are principally occurrence of an otherwise unexplained fever, paresis, radicular pain, and headache. Any otherwise unexplainable complaint must be regarded as suspicious. An intradermal skin test using antirabies vaccine diluted to 1:10 was found to be positive in all patients in whom a clinical reaction to rabies vaccine developed; but it was positive in 60% of all patients being vaccinated. Persons who have not been inoculated with rabies vaccine have negative skin tests. Corticotropin was given to three of the patients with the most serious involvements. Two responded well, and the third, who received the drug late in the course of the disease, had only questionable benefit. It was suggested but not proved that corticotropin may have been effective in treating these patients.

Plasma or Serum Proteins in Patients with Rheumatic Fever.—A detailed study of the plasma or serum proteins of 77 children with definite rheumatic fever and five patients with chorea without other manifestations of rheumatic fever is reported. The total proteins and percentage composition of albumin, $alpha_1$ globulin, $alpha_2$ globulin, beta globulin, fibrinogen, gamma' globulin, and gamma globulin of the blood are given for patients in the following stages of the disease: (1) early acute without decompensation, (2) late acute without decompensation, (3) early, middle, and late subacute without decompensation or recent infection or exacerbation, (4) inactive without recent infection or exacerbation, (5) acute with decompensation, (6) early, middle, and late subacute without decompensation but with recent mild intercurrent infection or exacerbation, (7) active chorea only, and (8) remittent type in various stages. The changes in the serum protein components of the blood that take place along with the antibody response when a child's system adjusts to acute disease were found to have a definite pattern, as evidenced by the 205 plasma or serum specimens analyzed in the course of this study. The percentage composition of albumin, fibrinogen, and the globulins $alpha_1$, $alpha_2$, gamma', and gamma is markedly altered in the acute stage of the disease. The return to normal mean values as the disease regresses is gradual for albumin, fibrinogen, and $alpha_2$ and gamma globulins; $alpha_1$ and gamma' globulins are elevated generally only in the acute stage. Changes in the percentage composition of beta globulin are not correlated with the stages of the disease; the mean values for total proteins are slightly elevated for all subgroups of uncomplicated rheumatic fever and significantly elevated in the late subacute stage. The mean values of serum protein fractions for the group of patients with inactive rheumatic fever indicate that the patients as a group are capable of normal protein metabolism.

A.M.A. Arch. Ophthalmology, Chicago

50:401-544 (Oct.) 1953

Comparative Chemistry of Aqueous Humor in Posterior and Anterio Chambers of Rabbit Eye: Its Physiologic Significance. V. E. Kinsey —p. 401.

Simulated Progression of Visual Field Defects of Glaucoma. R. McC Day and H. G. Scheie.—p. 418.

Type of Paralysis of Conjugate Gaze (Ocular Motor Apraxia). D. G Cogan and R. D. Adams.—p. 434.

*Endogenous Uveitis in Children: Associated Band-Shaped Keratopath and Rheumatoid Arthritis. M. D. Davis.—p. 443.

Idiopathic Hypoparathyroidism and Cataract: Report of Four Case A. S. Haft.—p. 455.

Hereditary Polymorphous Deep Degeneration of Cornea. H. B. McGe and H. F. Falls.—p. 462.

Tumor of Optic Disk Associated with Neurofibromatosis: Presentation o Case. R. H. Trueman and I. E. Rubin.—p. 468.

Anomalous Binocular Depth Perception Due to Unequal Image Brigh ness. P. W. Miles.—p. 475.

*Hyperophthalmopathic Graves's Disease: Clinical Observations in Cases. T. R. Hedges Jr. and E. Rose.—p. 479.

Respiration of Ciliary Processes. A. deRoetth Jr.—p. 491.

Glucose Utilization of Retina. II. Influence of Various Hormones o Glucose Utilization of Retina. W. Kornblueth, E. Yardeni-Yaron an E. Wertheimer.—p. 500.

Echinococcus Cyst of Eyeball. O. Litricin.—p. 506.

Endogenous Uveitis in Children.—The occurrence of activ endogenous uveitis was observed in five girls and seven boy between the ages of 5 and 15 years. The disease was diagnose as chorioretinitis without anterior segment involvement in of the 12 patients, while it was described as iritis or irido cyclitis, with or without posterior involvement, in the re maining 10. Of the 10 patients, 4 had definite concurren rheumatoid arthritis and 2 had a history of "arthritis" withou any residual joint deformity. No other causative factor wa noted in any of these patients, except for sarcoidosis in one The cause was undetermined in the remaining four patient The anterior uveitis was of granulomatous type in two patient nongranulomatous in three, and of quiet serous type in five This last type was noted in most of the cases of iritis asso ciated with juvenile rheumatoid arthritis collected from th literature. Of the author's five patients with this last typ of anterior uveitis, three had definite rheumatoid arthriti one had a history of arthritis, and in one the cause was un determined. Two of the 10 patients with anterior uveiti associated with typical rheumatoid arthritic deformities of th proximal interphalangeal joints bilaterally and sarcoid lesion on the extensor surfaces of both arms in one, and with synovia thickening of the enlarged right knee joint in the other, ar described in detail. A brief review of the literature on th triad of band-shaped keratopathy, iritis, and juvenile rheu matoid arthritis is presented, and the association of rheu matoid arthritis with juvenile uveitis is stressed.

Hyperophthalmopathic Graves' Disease.—The clinical pictur of 19 patients with hyperophthalmopathic Graves' diseas reported on by Hedges and Rose was dominated by sever or progressive ocular signs. Proptosis was symmetrical in 1 patients and asymmetrical in 9 at the onset of exophthalmos Congestive signs were present without corneal damage in

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Pulmonary Resection for Tuberculous Disease.—Pulmonary resection for localized necrotic tuberculous lesions of the lung were performed on 221 patients who were followed one to five years postoperatively. The lesions involved only one lobe and were limited to an area not exceeding the extent of a minimal lesion as defined by National Tuberculosis Association standards. Of the 221 patients, 69 had cavitary lesions, 2 diffuse caseopneumonic, 96 caseonodose, and 54 tuberculoma. Excision was accomplished by wedge resection in 68 patients, segmental resection in 38, and lobectomy in 115. The postoperative management included bed rest and hospitalization for approximately one year. Results from excision of necrotic tuberculous pulmonary lesions were gratifying. The operative mortality was 0.5%. The incidence of postoperative tuberculous complications was 3.2%, late pulmonary reactivation 2.2%, and late extrapulmonary reactivation (axillary and cervical adenitis) 0.9%. Four patients were lost to observation, and 207 (93%) of the remaining 216 are alive and well; 75% of those operated on prior to 1952 are working. The authors' study is a retrospective one dating back to 1947, and during this period much progress was made in the treatment of pulmonary tuberculosis.

California Medicine, San Francisco

79:207-270 (Sept.) 1953

Obstructive Urinary Tract Lesions in Children. E. Burns.—p. 207.
Phenylbutazone: Evaluation of Its Use. W. G. Snow.—p. 211.
Anoxemia and Brain Disease. C. B. Courville.—p. 214.
Treatment of Intraoral Carcinoma: Combined Resection of Jaw and Radical Dissection of Neck. N. J. Wilde.—p. 218.
Diagnosis and Treatment of Gouty Arthritis. J. H. Talbott.—p. 220.
*Sublingual Administration of Curare. W. B. Neff and H. Mayer.—p. 227.
Stenosis of Urethral Meatus in Boys: Surgical Correction. J. H. Kaplan and W. M. Tasem.—p. 231.
Primary Cutaneous Coccidioidomycosis: Criteria for Diagnosis and Report of Case. J. W. Wilson, C. E. Smith and O. A. Plunkett.—p. 233.
Relationships in Consultation. H. K. Graham.—p. 240.

Sublingual Administration of Curare.—Neff and Mayer point out that the relatively short duration of action produced by the intravenous administration is desirable when curare is used in anesthesia and neuropsychiatry. When curare is used in diseases in which spasm of the voluntary muscles is a feature, however, a long, continued but lower level of curarization is desirable. In order to achieve this, it was decided to resort to sublingual administration, which had been originally suggested by Erdei of Toronto. The first preparation used by Neff and Mayer was in the form of sublingual pellets containing 2 mg. of *d*-tubocurarine per pellet. The pellets now used contain 3 mg. of *d*-tubocurarine and, when administered sublingually, disintegrate in from 20 to 30 minutes. Sublingual administration of curare was used in patients with painful muscle spasm, who were refractory to both narcotics and mephenesin. One patient had episodes of severe back pain and muscle spasm after laminectomy; opiates afforded only partial relief, and mephenesin did nothing. Sublingual administration of curare relieved the muscle spasm and pain. In another patient with fracture dislocation of the neck, who was completely paralyzed below the seventh cervical vertebra, recovery was complicated by paroxysms of muscle spasms in both lower extremities. Narcotics gave only partial relief, and mephenesin gave no relief. Sublingual administration of curare provided sufficient relief to permit the complete withdrawal of narcotics. Contractions still occurred, but they were less severe and no longer associated with severe pain. The dose of curare needed to bring this about was 12 mg. four times daily and sometimes once during the night. The patient placed two 2 mg. pellets under his tongue and repeated this at 20 minute intervals until a total of six pellets (12 mg.) had been taken. Orders were given not to swallow or talk during the administration. When the drug was taken sublingually in therapeutic dosage by the authors (in the absence of any clinical lesion) no subjective effect whatsoever was noted. The method proved valuable also as an adjunct; for instance, it relaxed cervical muscle spasm in torticollis resulting from partial subluxation, prior to neck traction. It alleviated the symptoms of the scalenus anticus syndrome, averting in many cases the need for severing the muscle. The drug is also of value in differential diagnosis; for instance, in determining whether pain in neck or back is due to muscle spasm from nervous tension or to organic changes. Puzzling abdominal pain may be explained since the drug will relieve pain caused by abdominal muscle spasm from a rectus tear or strain, but will not influence the smooth muscle spasm of uterine cramps or a bowel lesion. Although the drug works best on muscles that are palpably in spasm, it also relieved pain caused by intramuscular injection of meralluride (Mercuhydrin). In general, the sublingual administration of curare was more effective than mephenesin.

Circulation, New York

8:481-640 (Oct.) 1953

*Reactivation of Rheumatic Fever Following Mitral Commissurotomy. L. A. Soloff, J. Zatuchni, O. H. Janton and others.—p. 481.
*Antibiotic Therapy of Bacterial Endocarditis: IV. Successful Short-Term (Two Weeks) Combined Penicillin-Dihydrostreptomycin Therapy in Subacute Bacterial Endocarditis Caused by Penicillin-Sensitive Streptococci. J. E. Geraci and W. J. Martin.—p. 494.
Relation of Age to Certain Electrocardiographic Responses of Normal Adults to Standardized Exercise. H. M. Silver and M. Landowne.—p. 510.
Age Changes in Heart Rate and Blood Pressure Responses to Tilting and Standardized Exercise. A. H. Norris, N. W. Shock and M. J. Yiengst.—p. 521.
Lewis A. Connor Memorial Lecture: Physiology of Cardiac Output. W. F. Hamilton.—p. 527.
Failure to Reduce Size of Experimentally Produced Myocardial Infarcts by Cortisone Treatment. D. F. Opdyke, A. Lambert, H. C. Stoerk and others.—p. 544.
Congenital Aneurysm of Right Sinus of Valsalva, Diagnosed by Aortography. W. Falholt and G. Thomsen.—p. 549.
Electrocardiographic Leads: I. Introduction. R. McFee and F. D. Johnston.—p. 554.
Kinetocardiogram: III. Distribution of Forces over Anterior Chest. E. E. Eddleman Jr. and K. Willis.—p. 569.
Method of Securing Direct Body Ballistocardiogram by Means of Microscope, Giving a Record Readily Calibrated. E. W. Bixby and C. B. Henderson.—p. 578.
Torsion Ballistocardiography: With Special Reference to Patterns in Surgically Amenable Cardiovascular Diseases. K. R. Reissmann and E. G. Dimond.—p. 585.
Significance of Intermediate Korotkoff Sounds. S. Rodbard.—p. 600.
Vectorcardiography. G. E. Burch, J. A. Abildskov and J. A. Cronvich.—p. 605.

Reactivation of Rheumatic Fever After Mitral Commissurotomy.—Of 179 consecutive patients who underwent mitral commissurotomy, 67 had recurrent chest pain after discharge from the hospital; 43 (24%) had a febrile syndrome characterized by the appearance of an episodic recurrence of a combination of events first occurring after a variable latent period after the surgical intervention. It was uniformly characterized by precordial pain and fever, frequently associated with precipitation or intensification of heart failure and was at times accompanied by migratory joint pains, arrhythmias, hemoptysis, or psychosis. It terminated in death in three patients. The syndrome is regarded as a reactivation of rheumatic fever because of its frequency after mitral commissurotomy and its absence after any other nonrheumatic cardiac or pulmonary surgical intervention and because of the frequent cardiac involvement. The authors believe that the incidence of this syndrome is even greater than that reported in this paper because (1) the incidence in those patients they had the opportunity of following personally is higher, (2) they have seen in consultation several patients in whom fever was not recognized because the temperature was either not taken (the pain was regarded as of incisural origin) or taken incorrectly, and (3) several of the referring physicians were using large amounts of salicylates routinely after hospitalization, a practice that the authors approve.

Antibiotic Therapy of Bacterial Endocarditis.—Short-term combined treatment with penicillin and dihydrostreptomycin for two weeks was given to 16 men and 7 women with subacute bacterial endocarditis caused by penicillin-sensitive streptococci. A low-grade fever, malaise, anorexia, tiredness, and weakness characterized the illness of most. The presence of a heart murmur was the clue to the source of the patient's difficulty. Rheumatic heart disease was present in 18 patients, degenerative or "arteriosclerotic" heart disease in 3, and syphilitic heart disease with syphilitic aortic insufficiency in one. In one patient, it was not possible to state whether any preexisting heart disease was present. Anemia, noted in 15 of the 23 patients, was mild in 12 and moderate in 3. The values for hemoglobin ranged as low as 6.2 gm. per 100 cc. of blood and averaged 10.3 gm. Leukocyte and differential counts were abnormal in only a few patients. Eighteen patients (78%) remained well during follow-up periods of from 3 to 24 months. No therapeutic failures or relapses occurred in the living patients. Five patients (22%) died. Four of the deaths were due to complications of the endocarditis and the underlying heart disease, namely, congestive heart failure and cerebral embolism, while the fifth was due to coronary occlusion with myocardial infarction. One million units of aqueous procaine penicillin G and 1 gm. of dihydrostreptomycin sulfate given intramuscularly every 12 hours for two weeks represent adequate and curative treatment for subacute bacterial endocarditis caused by penicillin-sensitive streptococci.

Fertility and Sterility, Philadelphia

4:345-438 (Sept.-Oct.) 1953. Partial Index

*Peritoneal Factor in Female Sterility. E. G. Murray.—p. 371.
Urethrography: Its Value in Study of Male Fertility and Sterility. M. L. Brodny.—p. 386.
Round Multinucleated Spermatogenetic Cells. B. G. Maroulis.—p. 412.
Outcome of Pregnancy in Women Attending a Fertility Clinic. G. I. M. Swyer.—p. 416.
Use of Polyethylene in Tuboplasty. W. J. Mulligan, J. Rock and C. L. Easterday.—p. 428.

Peritoneal Factor in Sterility.—Murray feels that the tubo-ovarian space, which is covered by peritoneal serosa and connects the surface of the ovary with the abdominal end of the tube, is a part of the ovular migration system and must be considered in the study of sterility in women because a lesion in this space may interfere with follicular ripening, ovulation, migration of the ovum to the tube, and the reception of the ovum by the infundibulum of the tube. Such lesions are similar to tubal obstruction in their consequences and are designated as pelvic blockage. The author has been concerned with this aspect of sterility for more than 10 years and has found pelvic blockage in 234 of 2,017 patients (11.6%) examined. Pelvic blockage may be the result of anatomic and functional factors. Anatomic blockage may be of the following types: ovarian, tubal, simple peritoneal, noncommunicating sacciform peritoneal, and communicating sacciform peritoneal. The cause of functional blockage lies in the fixation and retraction of one or other organ or in muscular or nervous lesions that interfere with the approximation movement of the tubal infundibulum to the ovarian surface. These processes are usually due to inflammation of the pelvis from postabortion or puerperal septic infections, gonorrhea, and genital tuberculosis. Other pathogenic factors are surgical trauma and its sequelae, external endometriosis after intrauterine maneuvers, inflammation of the neighboring organs, and peritoneal irritation caused by foreign substances (sulfonamides). In the diagnosis of pelvic blockage, gynecologic examination may have to be supplemented by hysterosalpingography, kymographic persufflation, laparoscopy, and culdoscopy. Medical therapy is similar to that of tubal obstruction, and includes the use of estrogens, diathermy, tubal persufflation, vitamin A, and, finally, cortisone, because of its action on connective tissue. With the aid of such measures, the author obtained some satisfactory results, in that 18 pregnancies resulted among 168 treated patients. When clinical measures have proved useless, surgical treatment may be necessary to remove adhesions, bands, septums, and hypertrophic scars; for peritoneal reconstruction of raw surfaces; and for the approximation of the ovary to the ostium of the tube. The results obtained with surgery were not outstanding because of the irreversible nature of many of the conditions or their tendency to recur. The intrauterine or peritoneal use of penicillin may prove of prophylactic value. In experiments on rats, a reduction of cicatrization was obtained with the use of cortisone and corticotropin, but, in humans, their use is still in the experimental stage.

Illinois Medical Journal, Chicago

104:233-292 (Oct.) 1953

Both Bone Fractures of Leg: Principles of Treatment. C. Scuderi.—p. 233.
Preventive Psychiatry for the Physician. J. M. Caldwell.—p. 236.
Mediastinal Tumors. T. M. Christie and I. Weissman.—p. 242.
Public Relations. J. A. Waggener.—p. 252.
Clinical Evaluation of New Antitussive Agent. S. Hyman and S. H. Rosenblum.—p. 257.
Social and Psychological Factors in Breakdown of Displaced Persons. G. Fenyes.—p. 260.

Journal of Clinical Investigation, New York

32:915-1052 (Oct.) 1953

Partial Purification of Human Prothrombin and Proconvertin: Their Characteristics and Interaction. J. H. Lewis and J. H. Ferguson. —p. 915.
Hemodynamic Effects of 1-Hydrazinophthalazine (Apresoline) in Human Pregnancy: Results of Intravenous Administration. N. S. Assali, S. Kaplan, S. Oighenstein and R. Suyemoto.—p. 922.
Studies in Edema: IV. Water Retention and Antidiuretic Hormone in Hepatic and Cardiac Disease. A. G. White, G. Rubin and L. Leiter. —p. 931.
Studies in Steroid Metabolism: XIX. α-Ketosteroid Excretion Pattern in Normal Males. K. Dobriner.—p. 940.
Id.: XX. Reproducibility of Urinary Steroid Pattern in Humans. K. Dobriner.—p. 950.
Local Blood Flow in Human Bone Marrow in Leukemia and Neoplastic Diseases as Determined by Clearance Rate of Radioiodide (I^{131}). N. L. Petrakis, S. P. Masouredis and P. Miller.—p. 952.
Use of Modified Globin as Protein Supplement in Normal Individuals. C. Waterhouse, E. H. Keutmann and L. D. Fenninger.—p. 964.
Regulation of Renal Bicarbonate Reabsorption by Plasma Carbon Dioxide Tension. A. S. Relman, B. Etsten and W. B. Schwartz.—p. 972.
Clinical and Experimental Study of Erythrocyte Ultrastructure Membrane with Electron Microscope. B. Sundharagiati and C.-S. Wright.—p. 979.
Determination of Plasma Volume in Man with Radioactive Chromic Chloride. H. Frank and S. J. Gray.—p. 991.
Simultaneous Determination of Red Cell Mass and Plasma Volume in Man with Radioactive Sodium Chromate and Chromic Chloride. S. J. Gray and H. Frank.—p. 1000.
*Storage of Blood Below 0 C. in Liquid State. A. Lorant, G. J. Lorant, A. Angrist and R. Korpman.—p. 1005.
Alterations of Fluid and Electrolyte Distribution and Renal Function in Diarrhea of Infancy. A. L. Katcher, M. F. Levitt, A. Y. Sweet and H. L. Hodes.—p. 1013.
Cardiac Output at Rest in Laennec's Cirrhosis. H. J. Kowalski and W. H. Abelmann.—p. 1025.
New Method for Estimating Serum Acid Phosphatase of Prostatic Origin Applied to Clinical Investigation of Cancer of Prostate. W. H. Fishman, R. M. Dart, C. D. Bonner and others.—p. 1034.
Observations on Pain Produced by Injection of Hypertonic Saline into Muscles and Other Supportive Tissues. O. Steinbrocker, S. A. Isenberg, M. Silver and others.—p. 1045.

Storage of Blood Below 0 C (32 F) in Liquid State.—Lorant and associates point out that the importance of refrigeration in the preservation of blood was recognized by Rous and Turner in 1916. The temperatures most suitable for survival of human red blood cells were found to lie between 4 and 9

C (39 to 48 F) with an optimum at about 7 C (44.6 F). Temperatures above 10 C (50 F) favor more rapid deterioration of erythrocytes. Storage temperatures below 0 C could not be evaluated because blood freezes and then hemolyzes completely on melting. At temperatures below freezing, blood can be kept liquid by the use of high pressures and by ethyl alcohol. Investigations on the preservation of blood with these aids revealed that the damage caused by pressure in the range investigated was considerable. High pressure, low temperature preservation of whole blood does not seem to be a promising procedure for long-term mass preservation of whole blood. The presence of 21% ethyl alcohol in the blood permits storage of whole blood at -12 C (+10.4 F) in the liquid state. At this temperature 21% alcohol does not hemolyze red blood cells. The spontaneous hemolysis in blood, kept from freezing by alcohol and dextrose after four months' storage at -12 C, was equal to, or slightly less than, in blood stored at 4 C in A-C-D (anticoagulant acid citrate dextrose) solution alone. Osmotic resistance of the red blood cells showed a definite, but not remarkable, improvement in the blood stored at -12 C in alcohol. It is urged that the use of alcohol for the low temperature, long range storage of blood and other tissues be studied.

Journal of Experimental Medicine, New York

98:291-398 (Oct.) 1953. **Partial Index**

Activation of Profibrinolysin by Antigen-Antibody Reaction and by Anaphylactoid Agents: Its Relation to Complement. G. Ungar, E. Damgaard and F. P. Hummel.—p. 291.
Egestion of Phagocytized Particles by Leukocytes. A. T. Wilson.—p. 305.
Relationship Between Acute Phase Response and Antibody Production in Rabbit. H. F. Wood—p. 311.
Studies of Effect of Bacterial Endotoxins on Rabbit Leukocytes. M. Berthrong and L. E. Cluff.—p. 331.
Inactivation of Herpes Simplex Virus by Phosphatase Enzymes. H. Amos. —p. 365.

Journal-Lancet, Minneapolis

73:305-340 (Aug.) 1953

Meningococcal Disease: Review. R. B. Disenhouse.—p. 305.
Diagnosis and Treatment of Proctologic Disorders. C. A. Neumeister. —p. 313.
Observations on Some Hematological Effects of Cobalt-Iron Mixtures. R. J. Rohn and W. H. Bond.—p. 317.
Rorschach Test and Its Forensic Implications. G. R. Kamman.—p. 325.

73:341-398 (Sept.) 1953

Pulmonary Hypertension. L. E. Wold.—p. 341.
Study of Labor Induction. F. A. Hill.—p. 343.
Transient Cerebral Paralysis. R. M. Fawcett.—p. 346.
Fulminating Meningococcemia with Bilateral Adrenal Hemorrhage. R. B. Tudor and R. R. Kling.—p. 350.
Histoplasmosis in North Dakota. C. C. Smith.—p. 352.

Journal of Nervous and Mental Disease, New York

117:383-478 (May) 1953

Studies on Physiology of Awareness: Correlation Between Intelligence and Anoxemia in Senile Dementia. J. W. L. Doust, R. A. Schneider, G. A. Talland and others.—p. 383.
Value of Ballistocardiography in Neuropsychiatric Hospital: New Application of Method. S. L. Levin and A. G. Selinger.—p. 399.
Streptococci in Etiology of Diverse Diseases, Including Diseases of Nervous System. E. C. Rosenow.—p. 415.
Flickered Light as Provocative Test in Electroencephalography. M. Ostow. —p. 429.
Aspects of Character in Neurotic Veteran. A. F. Valenstein, J. J. Michaels and M. Evje.—p. 445.
*Fatal Cardiac Complications During Electroshock Treatment: Case Report. N. Malamud and A. Zheutlin.—p. 458.

Fatal Cardiac Complication During Electroshock Treatment. —After citing earlier reports on fatalities from electroshock treatment, which has been estimated at 0.5 or 0.8 per 1,000 cases, Malamud and Zheutlin report what they believe to be the first instance of rupture of the heart associated with electroshock therapy. The patient was a 55-year-old woman. Death was obviously due to cardiac tamponade that resulted from bleeding into the pericardial sac produced by the rupture of the myocardium at the site of infarction. Microscopic study indicated that the infarct was approximately of four to six days' duration, and it is, therefore, evident that this lesion antedated the fatal episode. The occurrence of myocardi infarction after electroshock treatment has been explained Altschule and Tillotson as the result of additional work bei required of the heart after the convulsion to overcome t accumulated oxygen debt. This mechanism seemed to pl an important causative role in this case in so far as the ru ture of the heart was concerned, even though the actual my cardial infarction was the result of coronary occlusion. has been suggested that the critical period in the course of myocardial infarction occurs during the second to sixth d when the greatest amount of necrotic tissue is present and t myocardium is the weakest. In this case the combination weakened myocardium with a four to six day old infa plus the increased demand on the heart produced by elect shock probably resulted in the rupture of the myocardiu It is suggested that acute coronary occlusion at a cert critical stage should be regarded as a contraindication electroshock therapy.

Journal of Nutrition, Philadelphia

51:1-148 (Sept.) 1953. **Partial Index**

Folic Acid Deficiency in the Guinea Pig. C. W. Woodruff, S. L. Clark and E. B. Bridgeforth.—p. 23.
Studies on Obesity: II. Food Intake and Oxygen Consumption. J. Lyon Jr., M. T. Dowling and P. F. Fenton.—p. 65.
Relation of Dietary Protein Levels to Reproduction in the Rat. M. Nelson and H. M. Evans.—p. 71.
Distribution of Xanthine Oxidase Factor (Molybdenum) in Foods. W. Westerfeld and D. A. Richert.—p. 85.
Utilization of Carotene: I. As Affected by Certain Proteins in Diet Growing Albino Rats. W. H. James and I. M. ElGindi.—p. 97.
Some Factors Affecting Nitrogen Balance in the Adult Rat. M. Woma M. W. Marshall and A. B. Parks.—p. 117.
Effect of 3-Nitro, 4-Hydroxyphenylarsonic Acid and Arsanilic Acid Selenium Poisoning in the Rat. C. Hendrick, H. L. Klug and O. Olson.—p. 131.

Journal of the Student A. M. A., Chicago

2:1-84 (Oct.) 1953

Pathogenesis and Treatment of Acute Anuria. I. Snapper.—p. 21.
Carnegie Collection of Human Embryos. G. W. Settle.—p. 24.
Certain Radiological Limitations in Evaluating Diseases of Chest. M. Wholey.—p. 28.

Journal of Thoracic Surgery, St. Louis

26:331-440 (Oct.) 1953

Bronchiolar ("Alveolar Cell") Carcinoma of Lung. C. F. Storey, K. Knudtson and B. J. Lawrence.—p. 331.
Significance of Pulmonary Hypertension as Cause of Death Followi Pulmonary Resection. W. E. Adams, J. F. Perkins Jr., A. Flores a others.—p. 407.
Prevention of Chest Wall Defects: Use of Tantalum and Steel Me D. B. Effler.—p. 419.
An Operation for Chronic Pleural Empyema. F. G. Kergin.—p. 430.
*Emergency Pulmonary Resection for Massive Hemoptysis in Tuberculo C. A. Ross.—p. 435.

Emergency Pulmonary Resection for Massive Hemoptysis.- A successful emergency pneumonectomy was performed f massive hemoptysis in a woman aged 45 with pulmona tuberculosis involving the right lung. On admission of t patient to the sanatorium, one month before the surgical inte vention, roentgenograms showed that the upper lobe w fibrotic and contained a large cavity while the lower lo showed scattered nodule formation and fibrosis. The sputu was positive for Mycobacterium tuberculosis. Resection w considered but postponed because the patient was not co sidered fit for surgery, and a pneumoperitoneum was induce in an attempt to improve her condition. Several weeks late after a rather large pneumoperitoneum refill, she began cough up bright red blood; the hemorrhage became profus and for four days she had repeated hemoptyses varying fro 10 to 20 oz. of blood at a time. A transfusion of 500 cc. blood was given. A diffuse spread of the disease to the low lobe of the right lung was demonstrated on roentgenolog examination. Five days later she had further profuse hemo tysis resulting in extreme shock. Further transfusion w started, but replacement did not keep pace with the continue loss of blood. It was then that the emergency pneumonectom was performed. She received a total amount of 8,000 cc.

blood, including the two bottles that were running at the time she was taken to the operating room. Dihydrostreptomycin therapy with a dose of 1 gm. daily was started eight days before the surgical intervention and was continued with reduced doses for four months combined with *p*-aminosalicylic acid in doses of 12 gm. daily. A definite contralateral spread of the disease was noted on the sixth postoperative day. Three weeks after the operation isonicotinic acid hydrazide was started in doses of 200 mg. daily, and combined treatment with this drug and with *p*-aminosalicylic acid was continued for seven months. A solution of *p*-aminosalicylic acid containing 10 gm. of the drug was introduced into the right pleural space every other day for two weeks postoperatively. A small pneumoperitoneum was maintained for five months postoperatively to help reduce the size of the right hemithoracic space. The patient was discharged from the sanatorium after eight months. She was steadily gaining weight, and roentgenograms did not show any evidence of active disease in the contralateral lung. Though the operation was performed during an acute exacerbation of the tuberculous process and on a patient who was a very poor surgical risk, the outcome was gratifying. A contralateral spread of the disease appeared to be controlled by prolonged antibiotic therapy. Technical considerations of importance are as follows: excellent anesthesia is most necessary; large amounts of blood must be given, particularly during the operation; endobronchial tamponade prior to beginning surgery is the ideal method of positively controlling the hazard of aspiration of blood by the other lung; speed in surgery is necessary; prolonged antibiotic therapy is required in addition to surgical intervention. Conservative measures should first be tried to control the situation, but surgery should not be delayed until a massive contralateral spread of the disease has occurred or the patient is in such poor condition as to be beyond surgical help.

Laboratory Investigation, Philadelphia

2:325-396 (Sept.-Oct.) 1953

Studies on Chemical Composition of Normal and Abnormal Blood Vessel Walls: I. Chemical Nature of Vascular Calcified Deposits. D. Carlström, B. Engfeldt, A. Engström and N. Ringertz.—p. 325.
Principles of Rapid Frozen Sectioning, with Method of Prefixation Using Undiluted Formalin at 60 C. L. Reiner.—p. 336.
Autoradiographic Distribution of Intravenous Colloidal Gold (Au^{198}) in Rat. V. A. Stembridge, R. M. Kniseley and W. Gibbs.—p. 349.
Pituitary Changes in Thyroid Aplasia: Possible Significance: Report of Case with Autopsy. A. S. Burt and R. B. Cohen.—p. 357.
New Histologic Technics for Autoradiography. V. H. Witten and V. Holstrom.—p. 368.
Photographing Small Laboratory Animals. V. V. Brunst and R. J. Clayton.—p. 376.
Congenital Malformation of Heart: Interruption of Aortic Arch, Mitral Valve Orifice Atresia, and Persistent Left Superior Vena Cava. E. P. Kintner.—p. 388.

Laryngoscope, St. Louis

63:757-872 (Sept.) 1953. **Partial Index**

Paralytic Stenosis of Larynx: Modification of Intralaryngeal Approach to Arytenoidectomy. B. A. De Bord Jr.—p. 757.
*Trigeminal Symptoms in Acoustic Nerve Tumors. D. Cleveland and J. L. Garvey.—p. 778.
Laryngeal Foreign Bodies with One Case Report. F. L. Harcourt.—p. 786.
Corrosive Esophagitis Due to Nitric Acid. P. H. Holinger, M. J. Tamari and S. H. Bear.—p. 789.
Tonsillectomy and Poliomyelitis. B. Tolczynski.—p. 808.
Hereditary Hemorrhagic Telangiectasis. G. A. Henry.—p. 823.
Critical Evaluation of Noise Audiometry. T. Palva, A. Goodman and I. J. Hirsh.—p. 842.

Trigeminal Symptoms in Acoustic Nerve Tumors.—Analysis of large groups of cases of acoustic nerve tumors and a review of 35 cases observed by the authors reveal that trigeminal symptoms are present in the majority. The authors give a detailed history of one patient in whom the major symptom of facial numbness became so acute and bothersome that surgical removal of a small acoustic neurofibroma was accomplished. If the facial numbness had not been so marked, it is probable that the tumor would have grown much larger before causing other symptoms necessitating or bringing about surgical removal. The presence of facial numbness and particularly corneal anesthesia, as demonstrated by loss of the corneal reflex in association with the symptoms referable to the eighth nerve, should immediately call attention to the probability of the existence of a relatively large tumor in the cerebellar pontine angle on the affected side. Otological examination should seldom fail to establish the diagnosis in the presence of the above mentioned symptoms. The diagnosis and surgical treatment of acoustic nerve tumors in a relatively early stage will lead to a high recovery rate with a minimum of residual symptoms.

Louisiana State Medical Society Journal, New Orleans

105:329-372 (Sept.) 1953

Diagnosis of Pulmonary Lesions. C. Parnall Jr.—p. 329.
Laboratory Diagnosis of Fungus Diseases. D. T. Smith.—p. 340.
Surgical Treatment of Pulmonary Diseases. L. J. O'Neil, V. Kroll and A. Cerniglia.—p. 343.
Strangulation Obstruction: Recent Experimental Work. I. Cohn Jr.—p. 344.
Surgical Treatment of Hypertension. A. Ochsner and C. C. Abbott.—p. 348.
Pulmonary Disease: Diagnosis and Treatment. J. E. Blum.—p. 355.
Hearing and Speech Impairment in Young Children. W. Rubin and J. K. Laguaite.—p. 356.
Functional Headache. F. A. Donaldson and W. L. Waldron.—p. 360.

Michigan State Medical Society Journal, Lansing

52:913-1024 (Sept.) 1953

Arthritis Research in Michigan: IV. Rehabilitation Stressed by Arthritis Foundation. J. J. Lightbody.—p. 946.
Prevention of Rheumatic Fever. Council on Rheumatic Fever and Congenital Heart Disease.—p. 949.
A Morning in an Arthritis Clinic. E. Lipkin.—p. 952.
Electromyographic Diagnostic Methods in Rheumatoid Arthritis. M. K. Newman, A. S. Goldstein and P. Wall.—p. 956.
Gouty Arthritis: Diagnosis and Treatment. J. W. Sigler and D. C. Ensign.—p. 959.
Osteoarthritis Treated with ACTH. M. Dale and M. Amil.—p. 963.
Osteoarthritis of Knee: Importance of Quadriceps Femoris in Mechanism and Management. R. J. Fry and F. B. House.—p. 967.
Heparin and Heparinoid Toxin in Pathogenesis of Hyperfibrinogenemia in Chronic Arthritis. E. A. Peterman.—p. 970.
Effect of Placental Thromboplastin on Hyperfibrinogenemia in Rheumatic Disease. E. A. Peterman.—p. 977.
Clinical Study of Phenylbutazone (Butazolidin) in Various Types of Arthritis. G. E. Platoff.—p. 980.
Subdeltoid Bursitis. K. L. Krabbenhoft and T. Leucutia.—p. 986.

Missouri Medicine, St. Louis

50:739-816 (Oct.) 1953

Lacerations of Face. D. W. Macomber.—p. 755.
Genito-Urinary Injuries. J. C. Cope.—p. 760.
Treatment of Acute Myocardial Infarction. M. Bernreiter.—p. 762.
Technic for Using Suction in Cases of Snake Bite. R. R. Grayson.—p. 763.
Treatment of Periungual Warts. L. K. Halpern and C. W. Lane.—p. 765.
Neurologic Complications of Chronic Alcoholism. L. L. Tureen and A. L. Hahn.—p. 766.

New England Journal of Medicine, Boston

249:471-506 (Sept. 17) 1953

Some Emotional Aspects of Treatment of Diabetes Mellitus and Role of Physician. S. Stearns.—p. 471.
Diffuse Gastric Polyposis: Treatment by Total Gastrectomy. R. T. Doyle, H. E. Nash Jr. and J. H. Graham.—p. 477.
*Clinical Toxicity of Terramycin. F. L. Miller and R. Walker.—p. 479.
Chronologic Account of Meeting Places of Massachusetts Medical Society and Its Council. F. R. Ober.—p. 482.

Toxicity of Oxytetracycline (Terramycin).—Observations on the clinical toxicity of oxytetracycline (Terramycin) were made on 70 tuberculous patients receiving 5 gm. of the drug daily in combination with 2 gm. of streptomycin every third day, both drugs being given for 120 days. In this group, as in a group of 27 treated earlier with oxytetracycline, no ototoxic, nephrotoxic, hepatotoxic, avitaminotic, dermatological, or hematological changes were noted. The signs and symptoms of gastrointestinal tract irritability were the only clinical manifestations of toxicity. Anorexia was the commonest symptom, occurring in 70% of the patients. It usually persisted throughout the four month period of treatment. Nausea, the second commonest symptom, occurred at least once in 50% of the patients. It was sporadic and transient as a rule. There were four patients, however, in whom nausea was more or less persistent. Vomiting was observed at least once in 9 of the 70 patients studied. In four cases it persisted when 5 gm. was taken. All four patients, 2 of whom were women, were able to continue taking oxytetracycline by either reducing the dosage or taking the drug intermittently. The occurrence of one to four soft stools per day was observed in 70% of the patients, usually throughout the period of therapy. A few of the patients experienced a mild diarrhea. Patients who experienced nausea, vomiting, and diarrhea were examined by proctosigmoidoscopy, but no abnormalities were found. Contrary to many reports in the literature, observations on this series indicated that the gastrointestinal tract irritation due to oxytetracycline is not a serious problem since no patient had to stop taking the drug during the four months of administration, and only four had to have the dosage reduced.

Oklahoma State Medical Assn. J., Oklahoma City

46:235-268 (Sept.) 1953

Resuscitation of Newborn Infant. A. Bloxsom.—p. 237.
Management of Eclampsia. B. C. Chatham.—p. 242.
Causes of Death in Premature Infants. W. T. Newsom and E. F. Stratton.—p. 246.
Hyaline Membrane Disease Pathology, Etiology and Pathogenesis. P. M. Obert.—p. 248.

Review of Gastroenterology, New York

20:697-776 (Oct.) 1953

Method of Increasing Gastric Reservoir Following Total Gastrectomy. B M Day and F. Cunha.—p. 705.
Diseases of Stomach and Duodenum. S. Fineman.—p. 714.
Evaluation of Erythrocyte Sedimentation Rate in Gastrointestinal Diseases E W Lipschutz.—p. 725.
Sigmoid Colon Polyp. J. Shaiken.—p. 737.
*Program of Medical Treatment for Chronic Ulcerative Colitis. L. M. Morrison.—p. 744.
X-Ray Diagnosis in Disorders of Biliary Tract. A. J. Tillinghast.—p. 750.

Medical Treatment of Chronic Ulcerative Colitis.—Morrison presents a three point program of medical treatment of chronic ulcerative colitis. It includes: (1) oral administration of salicylazosulfapyridine; (2) oral administration of cortisone or the intramuscular use of corticotropin (ACTH); and (3) psychotherapy. He reviews several previous reports on the use of salicylazosulfapyridine in ulcerative colitis, including his own experience with this drug in 52 patients over a three year period. The dosage was 1.5 gm. (3 tablets) every three hours for two weeks. After a rest of two weeks, the course may be repeated once or twice if needed. The drug is deposited in the connective tissue of the intestine where aminosalicylic acid and sulfapyridine are gradually liberated; it acts locally and then undergoes some absorption into the blood where acetylsulfapyridine and free sulfapyridine are found. The customary measures, such as proper dietary control, rest, supplemental vitamins and palliative drugs, maintenance of fluid and electrolyte balance, are continued during the treatment with salicylazosulfapyridine. Patients who do not respond are then given intramuscular injections of corticotropin in the form of a gel and in doses of 40 to 200 mg. once daily or cortisone by mouth in doses of two tablets (50 mg.) two to four times daily. The majority of patients experience a rather prompt remission with disappearance of the acute inflammatory reaction in the colon, a feeling of well-being associated with improvement in nutritional status, reduction of diarrhea and of bloody stools, and increase in appetite. If a relapse occurs, resumption of the administration of corticotropin or cortisone usually again produces remission. Close observation is necessary during the administration of these hormones because of the danger of serious complications. Most patients with chronic ulcerative colitis need supportive psychotherapy. The patient is encouraged to discuss his life, aggressive feelings, and social difficulties in a series of interviews, the physician playing the role of the sympathetic parent ministering to the patient's needs. These needs arise from insecurity and oversensitivity, aggravated by the debilitating effects of chronic abdominal pains, diarrhea, and bloody, purulent stools.

Stanford Medical Bulletin, San Francisco

11:137-202 (Aug.) 1953. Partial Index

Complete Arterialization of Liver Blood Supply: Part 2: Reciprocal Relationship of Portal Venous and Hepatic Artery Flow. R. Lee, W. Goggans and R. Cohn.—p. 137.
Use of Triphenyl Tetrazolium Chloride as Supravital Stain in Chemotherapeutic Trials with Ehrlich Ascites Tumor. F. A. Brown Jr.—p. 139.
Neutropenia Following Injection of Mercuhydrin®: Report of Case. A. Z. Cerf.—p. 154.
*Atabrine® and Chloroquine in Treatment of Chronic Discoid Lupus Erythematosus: Preliminary Report. E. M. Farber and I. E. Driver.—p. 157.
Biological Activity of Ehrlich Ascites Tumor Cells Cultured on Glass Substrates. L. Kolb and B. V. Siegel.—p. 159.
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Clinical Importance of Hepatic Involvement in Sarcoidosis. H. J. Zimmerman.—p. 173.
Surgical Treatment of Abdominal Aortic Aneurysms: Report of Case Treated by Resection of Aneurysm with Restoration of Aorta by Homograft. F. Gerbode, H. Parsons and I. Affonso da Costa.—p. 179.
Sensitivity of Various Clinically Important Bacteria to Four Antibiotics: Results Obtained with Plate-Screening Method. L. A. Rantz and H. H. Rantz.—p. 183.
Experimental and Clinical Data with D-Glucuron Isonicotinyl Hydrazone in Treatment of Tuberculosis: Preliminary Report. C. Brown, J. L. Gompertz, I. Gourly and E. G. Roberts.—p. 188.

Treatment of Chronic Discoid Lupus Erythematosus.—Fourteen patients with chronic discoid lupus erythematosus were treated, 10 receiving quinacrine hydrochloride and 4 chloroquine phosphate. The dosage of quinacrine hydrochloride consisted of 300 mg. daily for the first week, 200 mg. daily for the second week, and 100 mg. daily for the third week, until objective improvement in the lesions appeared. The first dose of chloroquine phosphate was 300 mg.; this was repeated after 6 hours and then after another 12 hours. Later it was given in 150 mg. doses three times a week. Of the 10 patients receiving quinacrine, 6 showed definite improvement, 3 slight improvement, and 1 a progression of the lesions. In four patients receiving chloroquine, one showed slight improvement and 3 little or none. The time elapsed is too short to predict how long the clinical remission will be maintained. The mode of action of quinacrine may be explained in one of three ways: (*a*) reduction in light sensitivity of the skin; (*b*) an action similar to that of corticotropin and cortisone, or (*c*) by antagonizing adenyl compounds in the chronic discoid lupus erythematosus lesions.

Surgery, Gynecology and Obstetrics, Chicago

97:401-528 (Oct.) 1953

Surgical Treatment of Epithelial Tumors of Parotid Gland. R. W. Buxton, J. H. Maxwell and A. J. French.—p. 401.
*Pulmonary Resection in First Year of Life. E. S. Crossett and R. R. Shaw.—p. 417.
Recognition and Treatment of Arteriosclerotic Stenosis of Major Arteries. E. J. Wylie and J. S. McGuinness.—p. 425.
Relationship of Vitamin C and ACTH in Experimental Wounds. J. A. Schilling, M. Radakovich, B. V. Favata and others.—p. 434.
Experimental and Clinical Evaluation of Surgical Suture Materials: II. E. T. Madsen.—p. 439.
Intraperitoneal Administration of Terramycin in Treatment of Experimental Peritonitis. W. E. Schatten and W. E. Abbott.—p. 445.
Thiopental, Curare, and Nitrous Oxide Anesthesia for Cesarean Section with Studies on Placental Transmission. E. N. Cohen, W. J. Paulson, J. Wall and B. Elert.—p. 456.
Prevention of Gas Explosions in Large Bowel During Electrosurgery. G. L. Becker.—p. 463.
Biliary Tract Surgery in Aged Patient. E. L. Strohl and W. G. Diffenbaugh.—p. 467.
*Evaluation of Shunt Operation for Portal Decompression. E. J. Jahnke Jr., E. D. Palmer, V. M. Sborov and others.—p. 471.
Roentgenography of Cysts of Breast. J. Gershon-Cohen and H. Ingleby.—p. 483.
Postabortal Sepsis Due to Clostridium Welchii. G. W. Douglas, B. H. Carney and D. Pellillo.—p. 490.
Effects of Apresoline, Veratrum Alkaloids, High Spinal Anesthesia, and Arfonad on Renal Hemodynamics of Pregnant Patients with Toxemia and Essential Hypertension. S. A. Kaplan and N. S. Assali.—p. 501.
*Carcinoma of Breast: Results, Evaluation of X-Radiation, and Relation of Age and Surgical Castration to Length of Survival. G. V. Smith and O. W. Smith.—p. 508.

Pulmonary Resection in First Year of Life.—Pulmonary resection was performed on six infants between the ages of two and eight months. Three had congenital pulmonary cysts for which lobectomy was performed in two and local resection in one; one had chronic, irreversible atelectasis; and two had bronchiectasis associated with cystic pancreatitis. In a seventh infant reported on previously by one of the authors, a right middle lobectomy was done because of localized hypertrophic emphysema. A five to six month follow-up of the three patients with cystic disease showed that the infants were developing normally with no evidence of respiratory difficulty. A follow-up was unobtainable in the case of the infant with atelectasis. A six week follow-up of the patient with localized hypertrophic emphysema showed normal expansion of the right lung and normal position of mediastinum. Although resection of the atelectatic and bronchiectatic lobes failed, in the remaining two patients, to improve the pulmonary complications associated with cystic pancreatitis sufficiently to bring about a long survival, it is believed that pulmonary resection is rational in this condition. With the advances made in anesthesia, technique of pulmonary surgery, antibiotics, and the knowledge of respiratory physiology, it is now possible to perform pulmonary resections in infants with a high degree of safety.

Shunt Operation for Portal Decompression.—Of 30 patients with portal hypertension and esophageal varices operated on, the causative obstruction of the portal bed was intrahepatic in 28, Laennec's cirrhosis in 21, postnecrotic cirrhosis in 6, and biliary cirrhosis in 1; extrahepatic block accounted for portal hypertension in only 2 patients with Banti's syndrome. Regardless of the exact mechanism responsible, some type of portal decompression must be utilized, if rupture of esophageal varices causing massive hematemesis with resulting deaths in as many as 70% of all patients with portal hypertension are to be prevented or significantly decreased. The direct end-to-side portacaval shunt is the operation of choice and was employed in 22 patients. The splenorenal shunt was established in five patients. Neither shunt could be established in the remaining three patients, and less desirable procedures were utilized. A thoracoabdominal incision was used exclusively. The Potts coarctation clamp and the Potts giant bulldog clamp are recommended for use on the portal vein and inferior vena cava respectively. Only two of the 30 patients died postoperatively, and both deaths occurred from liver failure. The alterations in postoperative liver function were mild, lasting from 7 to 10 days, when the operative time was minimal and intravenous chlortetracycline (aureomycin) was used routinely. Complete diversion of the portal blood did not interfere with the hepatic function in patients followed up to three years. Preoperative and postoperative manometric pressure readings in the esophageal varices are recommended in all patients to evaluate the operation. These pressures correlated closely with those obtained in the portal vein before and after operation. The portal circulation time, obtained by using the ether technique, indicated patency of the shunt and also correlated with the various pressure readings. Studies indicated that the systemic caval pressure influenced the degree of portal decompression obtained after operation. With follow-up from one month to three years, only two minor hemorrhages occurred after adequate portal decompression. Shunt operation was employed in six patients with severe portal hypertension and esophageal varices who had not had any previous episode of hemorrhage; there were no postoperative hemorrhages in the group. Percutaneous splenic and portal venography offered valuable diagnostic aid in determining the configuration of the portal vein prior to surgical intervention and in determining the patency of the shunt postoperatively.

Carcinoma of the Breast.—The results of simple and radical mastectomy with and without primary x-ray therapy in 739 consecutive and unselected women treated between 1905 and 1946 and followed up for from 5 to 20 years were subjected to critical analysis concerning the relationship of primary x-ray therapy, age at the time of surgical intervention, and prophylactic castration to the length of survival. According to these analyses, primary x-ray treatment in conjunction with mastectomy had prolonged the life among patients with axillary metastases. From a separate study of patients with grade 2 and grade 3 cancers of the breast, evidence was obtained that only patients with grade 3 tumors were benefited by x-ray therapy. In this group, moreover, the higher rates of survival were observed not only among those with involvement of axillary nodes but also among those without such involvement. The lowest percentages of survivors were among women between the ages of 40 and 60, that is, during the premenopausal and postmenopausal climacteric, suggesting that changes referable to the physiological involution of the ovaries augment the clinical malignancy of mammary cancer. Prophylactic ovariectomy prolonged life not only in women less than 40 years of age and over 59 but more so in those 40 to 59 years of age. There was some evidence of lengthened survival from prophylactic x-ray irradiation of the ovaries. The improved percentages of survival among the patients subjected to prophylactic ovariectomy were high enough to indicate that prophylactic ovariectomy deserves more extensive trial in women up to 70 years of age with axillary metastases if they can be persuaded to undergo a second major operation; the amount of benefit in each patient is as yet unpredictable. If, however, the growth of a given cancer of the breast should be amenable to retardation by the removal of ovarian stimulation, it would seem that the earlier ovariectomy is performed the longer will be survival. The authors' statistical analyses are given as suggestive but not conclusive evidence in favor of the findings.

Yale Journal of Biology and Medicine, New Haven

26:1-106 (Sept.) 1953. Partial Index

Role of Alcohol in Pathogenesis of Cirrhosis. G. Klatskin.—p. 23.

Sensitivity to Cold in Hereditary Obese-Hyperglycemic Syndrome of Mice. J. Mayer and R. J. Barrnett.—p. 38.

Formation of Tetanus Antitoxin by Spleen and Lymph Node Intraocular Transplants. W. M. Hale and R. D. Stoner.—p. 46.

Regulation of Food Intake in Normal Rats and in Rats with Hypothalamic Hyperphagia. J. L. Strominger, J. R. Brobeck and R. L. Cort. —p. 55.

Fraction of Commercial Yeast Which Protects Against Bacterial Infection: Preliminary Note. I. A. Parfentjev.—p. 75.

Fraction of Yeast That Protects Against Bacterial Infection.—There are indications that vaccination with Hemophilus pertussis, while increasing resistance against infection by this organism, will, at the same time, produce hypersensitivity to the H. pertussis antigen. Such sensitivity, however, is not specific for pertussis but crosses with several other species of gram-negative bacteria. Furthermore, mice immunized against pertussis are much more susceptible to infection by other gram-negative bacteria than are their normal litter mates. Apparently, specific immunization can produce a nonspecific lowering of resistance that predisposes the host to unrelated infections. Because bacterial protein plays a part in hypersensitivity and is implicated in the etiology of infections, the search for a desensitizing protein was undertaken. The obvious selection was protein associated with the nucleic acid of the bacterial cell from the specific Hemophilus organism. Injection of this material reinforced the resistance of sensitized animals. However, since hypersensitivity is not species specific, the possibility of another source of comparable material was apparent, and it was found that a preparation of yeast sodium nucleate would not only reduce the hypersensitivity of vaccinated animals to the same pertussis antigen, but make them refractory to gram-negative bacteria. Numerous experiments proved that mice after injection with sodium nucleate are protected against infection by Proteus, Pasteurella, Brucella, and Escherichia coli organisms. Subsequent studies indicated that different brands of sodium nucleate were variable in potency. The source material, yeast, was fractionated in search of the active principle. A very potent fraction was isolated from baker's yeast, which is over three-hundred-fold more effective than commercial preparation of sodium nucleate and will protect animals against infection with gram-negative bacteria.

FOREIGN

Acta Neurologica et Psychiatrica Belgica, Brussels

53:487-548 (Aug.) 1953

Remarkable Effects of Treatment of Cerebral and Other Thromboses with Sulfonamides and Antibiotics. A. Leroy and R. Leroy.—p. 487.

Thrombotic Disease Greatly Improved by Sulfonamide Therapy Followed by Convulsion Therapy. R. Leroy.—p. 491.

Pathogenesis and Biological Treatment of Nervous Disorders Said to Be Functional: Precedence and Superiority of Cutaneous Allergic Shock with Tuberculin. M. Molhant.—p. 494.

*Histopathology of Multiple and Diffuse Sclerosis in Man and Animals. J. Hallervorden.—p. 517.

Use of Phenylethylacetylurea in Treatment of Epilepsy. L. Sorel and R. De Smedt.—p. 531.

Histopathology of Multiple and Diffuse Sclerosis.—Multiple sclerosis in its diverse forms is an encephalitis marked by foci of specific demyelinization affecting the myelin sheaths, the axons and neurons being spared. The foci arise by diffusion of a myelinolytic substance from small blood vessels or from tissue liquids without regard to preexisting structures. The foci are distributed throughout the nervous system in general, although areas of predilection can be found. There are simple and concentric foci. Some surprising analogies have been found between human multiple sclerosis and the ringspot diseases of plants. 1. Both display the same kind of concentric foci, the same kind of simple continuous foci, and the combination of the two types. 2. These foci arise by simple or rhythmic diffusion of a constantly multiplying agent of infection; in plants, this agent has been proved to be a virus. 3. The concentric arrangement of the foci is thought to be due to the repeated appearance of intratissue defensive substances. Substances hostile to the virus have been isolated in afflicted plants. 4. In both diseases the foci are distributed haphazardly throughout the organism, but also have areas of preference. 5. Distribution is achieved by way of the parenchyma and vessels in both and is comparable in terms of time and space. The agent of infection can pass through only the smaller vessels, which, incidentally, it does not attack. 6. The disease is associated, in either case, with a particular tissue and thus with a particular organ. There appears to be no connection between multiple sclerosis and any of the other encephalitic diseases. Experimental allergic encephalitis does not show specific demyelinization and so cannot be compared to multiple sclerosis. Among the spontaneous diseases of this type in animals, only multiple sclerosis in the dog has histopathological characteristics suggestive of human multiple sclerosis.

Anales de la Facultad de Medicina, Montevideo

38:75-162 (March-April) 1953

*Necrotic Arachnidism. J. E. Mackinnon and J. Witkind.—p. 75.

Tolerance to Glucose in Extrapyramidal Syndromes. E. Balea, J. P. Segundo and C. Mendilaharsu.—p. 101.

Anuria: Biology and Pathogenesis. J. Lockhart.—p. 105.

Necrotic Arachnidism.—Necrotic arachnidism consists of a cutaneous necrosis, progressing to dry gangrene at the site of the bite, fever, jaundice, hemoglobinuria, cutaneous and intestinal hemorrhages, exanthema, and hemolysis. It is a serious condition and is fatal in a high percentage of children. A spontaneous regression of the acute symptoms occurs between the fifth and seventh days; local necrosis follows a slowly regressive course. From 1938 to 1949, 29 cases have been reported in the Uruguayan literature; the authors add three new cases. The disease was acute in eight patients. Three patients were children between the ages of 6 and 11 years. Two died 30 and 36 hours after the bite. The spiders were captured in the act of biting in two cases. They were identified as females of the Loxosceles laeta species. In the remaining cases the spider was either killed by the family of the victim or its type was not mentioned by the authors. Loxosceles laeta spiders are common in certain cities of Uruguay and other countries of South America. Their bite produces the necrotic, eruptive, and icterohemolytic forms of arachnidism. The authors made experiments on a large number of Loxosceles laeta spiders with the following results. Mice usually die within 24 hours after the bite or after a subcutaneous injection of the poison. They die with symptoms of general poisoning and paralysis of respiration. Rabbits usually die within 24 hours after the bite or after the subcutaneous or intradermic injection of the poison. They die with symptoms of general poisoning. The bites of one or two spiders are necessary to cause death in rabbits, according to the weight of the animal. Degeneration of the hepatic and renal cells and necrosis of the epithelium of the large intestine were observed in mice. The fatal dose of the poison is very close for mice and rabbits. In guinea pigs, the necrotic local lesion is the only effect observed. The female Loxosceles laeta, and not the male spider, proved to be the one that caused death of mice and rabbits and the one that contains in its glands enough poison to kill four or five mice or rabbits. The serum of immunized rabbits proved to protect mice against at least one mortal dose of the poison, even if the serum was given to the animal four hours after inoculation of the poison. The serum of nonimmunized rabbits and other antiarachnid and antiophidic serums did not protect mice against the poison. Prevention of necrotic arachnidism depends on cleanliness of housing and the use of benzene hexachloride as an insecticide.

Ärztliche Wochenschrift, Berlin

8:945-968 (Oct. 2) 1953. **Partial Index**

Animal Experiments on Sensitivity of Tubercle Bacilli to Amithiozone (Conteben). G. Veltman.—p. 951.

*Experiences with the Chemical Pregnancy Test According to Schlör. D. Benthin and H. v. Törne.—p. 957.

Importance of Syphilis During Pregnancy. H. Möbest.—p. 959.

Experiences with Chemical Pregnancy Test.—According to Benthin and von Törne attempts to demonstrate pregnancy by chemical means have not been convincing. This applies to the histidine method, as well as to the pregnanediol test. The iodine boiling test of Schlör seemed to be somewhat superior to these tests, not only in reliability but even more in simplicity. The authors, in performing the biological Galli Mainini test, which utilizes male toads, on 145 urines submitted to them for pregnancy tests, also made Schlör's chemical test on the same urines. The Schlör iodine boiling test yielded 17 negative reactions in 74 established pregnancies (23%) and 14 positive reactions in 71 urines (20%) of nonpregnant women. These percentages of erroneous reactions correspond closely to those obtained by others with the Schlör test. The authors conclude that the iodine boiling test cannot be regarded as a reliable indicator of pregnancy. Modifications of the original method did not noticeably improve the results.

Australian J. Exper. Biol. and M. Science, Adelaide

31:291-424 (Aug.) 1953. **Partial Index**

Insulin Tolerance and Hypoglycaemic Convulsions in Sheep. I. G. Jarrett and B. J. Potter.—p. 311.

Studies on Pathogenicity for Adult Mice of Virus Isolated from Case of Pleurodynia. J. K. Dineen and R. A. Barter.—p. 337.

Preparation and Properties of an Inhibitor of Influenza Virus Haemagglutination from Human Meconium. C. C. Curtain. E. L. French and J. Pye.—p. 349.

Back-Recombination of Influenza A Strain Obtained in Recombination Experiments. P. E. Lind and F. M. Burnet.—p. 361.

*Ammonia, Urea and Uric Acid Content of Toenails in Renal Insufficiency and Gout. A. Bolliger and R. Gross.—p. 385.

Studies on Soluble Complement Fixing Antigen of Influenza Virus: II. Serological Behavior of Antigen. G. L. Ada, B. T. Perry and J. Pye. —p. 391.

Effect of Noradrenaline-Induced Systemic Vasoconstriction on Formation of Pulmonary Oedema. P. I. Korner.—p. 405.

Ammonia, Urea, and Uric Acid in Renal Insufficiency and Gout.—The toenails of 11 patients with various types and degrees of renal impairment, but all with markedly increased blood urea levels at the time of death, were examined for water extractable urea, ammonia, and uric acid. The urea content of these toenails was always elevated. The ammonia content did not exceed normal values. The uric acid content of the toenails was markedly elevated in patients with chronic nephritis, but it was normal in those with renal impairment of short duration. In a patient with long-standing severe gout who died from interstitial nephritis, the uric acid content of the toenails was about four times as high as that from normal persons. For the estimation of the nonkeratin uric acid content, 50 mg. of nail are required; this amount can readily be obtained by means of nail parings from living subjects. Thus, it became possible to evaluate the uric acid content of toenails and fingernails and of head hair of three patients suffering from gout uncomplicated by renal insufficiency. They all showed definitely increased uric acid values in nails and head hair, while the blood uric acid content was normal at the time. This observation suggests that uric acid determinations on the readily available keratinous appendages and particularly toenails may be of diagnostic value. The elevated uric acid values found in gout, and to a lesser extent in chronic renal insufficiency, could be due either to a spilling over from other tissues into the keratinous structure as such or, in part, at least to a metabolic disturbance within the keratin-producing structures. The deposition in the keratinous structures of uric acid, which is difficult to excrete when there is renal impairment, seems feasible, particularly since the capacity of keratinous tissues to contain or fix comparatively large amounts of uric acid has been demonstrated in other mammals. In nephritic persons, uric acid formed as an end-product of the nucleic acid degradation in the process of keratinization may thus be forced into the developing keratin to a greater extent than usual. In advanced gout, moreover, considerably higher uric acid values can be obtained in toenails and hair than in chronic nephritis, though the blood uric acid levels are about the same in the two conditions. The authors are inclined to favor the view that increased deposition in gout is not due to a metabolic disturbance in the keratin-producing structures but that it is simply an excretory mechanism.

British Journal of Ophthalmology, London

37:577-640 (Oct.) 1953. Partial Index

Anatomical Study of Schlemm's Canal and Aqueous Veins by Means of Neoprene Casts: III. Arterial Relations of Schlemm's Canal. N. Ashton and R. Smith.—p. 577.
Changes in Refraction During Life. M. Bücklers.—p. 587.
Age Distribution of Onset of Esotropia. W. Nordlöw.—p. 593.
Histopathological Examination of Bilateral Symmetrical Cyst of Retina. J. Francois and M. Rabaey.—p. 601.
Binocular Vision of Miners with Nystagmus. A. Smith and R. C. Browne. —p. 609.
Primary Glaucoma Amongst Gold Coast Africans. J. W. R. Sarkies. —p. 615.
Grattage in Treatment of Trachoma. S. A. Quadeer.—p. 621.
New Method of Slit-Lamp Micro-Ophthalmoscopy. G. E. Bayadi.—p. 625.

British Journal of Physical Medicine, London

16:177-198 (Sept.) 1953

Focal Ultra-Violet Therapy in Physical Medicine Department. J. B. Stewart.—p. 177.
Notes on Measurement and Dosage of Ultra-Violet Radiation. H. Morris. —p. 180.
Kromayer Lamp. G. H. Dobney.—p. 183.
Frozen Shoulder (Scapulo-Bicipital Syndrome). A. Farkas.—p. 187.
*Relaxation of Muscle Spasm in Chronic Arthritis by Prostigmin. T. H. Howell.—p. 192.

Prostigmin for Muscle Spasm in Arthritis.—One of the common syndromes among the elderly persons under treatment at a clinic for rheumatic disorders appeared to be pain associated with muscular spasm. This was found in osteoarthritis and in rheumatoid disease. The usual sites were: (1) the vastus internus muscle, secondary to arthritis of hips or knees; (2) the flexor muscles of the forearm, associated with changes in the carpus or the elbow; and (3) the trapezius muscle, often accompanying cervical spondylitis. A series of 60 outpatients, all of whom had pain from muscle spasm in one of the sites mentioned above, were given 0.5 mg. of the drug by intramuscular injection. In 38 of these, one injection was enough to relax the muscles and to relieve the pain. Among the remaining patients, 14 received two or more injections with benefit, whereas the other 8 either did not respond or were made so sick by the drug that they could not recall any relief. Only pain from muscle spasm was relieved by prostigmin; other types remained unaltered. Prostigmin was tried also in 12 patients with chronic arthritis. An injection of 0.5 mg. was given twice a week before remedial exercises, in addition to its therapeutic use for spasm. The increased freedom of movement resulting was considerable, so that the patients themselves would deliberately ask for their injections "to make them looser." The effect of the drug lasted as a rule for 8 or 12 hours and began about 20 minutes after intramuscular injection. A tendency to vomiting or abdominal discomfort is an undesirable side-effect, and seems to increase when the drug is used over long periods.

British Journal of Surgery, Bristol

41:1-112 (July) 1953. Partial Index

*Pulmonary Adenomatosis. H. E. Hutchison and K. Fraser.—p. 1.
Gall-Stone Ileus. P. J. M. Wright and P. A. Trafford.—p. 6.
Note on Treatment of Central Dislocation of Hip-Joint. A. B. Watson —p. 9.
Ventriculographic Changes in Cysticercosis of Brain. D. G. Reddy and B. Ramamurthy.—p. 11.
Congenital Archenteric Cysts. J. Hutchison and J. D. Thomson.—p. 15.
Argentaffin Carcinomata with Special Reference to Growths of Ileocaecal Valve. H. Le Brun.—p. 20.
*Percutaneous Transhepatic Cholangiography in Diagnosis of Obstructive Jaundice. A. W. Nurick, D. H. Patey and C. G. Whiteside.—p. 27.
Chronic Lymphoedema of Extremities and Its Management. J. Watson —p. 31.
Persistence of Foetal Structures in Pyelonephritic Kidneys. A. G. Marshall.—p. 38.
Plasmocytomas Producing Paraplegia. L. Rodgers.—p. 54.
Perforation and Obstruction by Enterolith Complicating Jejunal Diverticulosis: Report of Three Cases. N. S. Slater.—p. 60.
Fat Embolism, with a Report of Nine Cases. A. J. Alldred.—p. 82.
Acute Osteomyelitis in Infancy and Early Childhood. T. James.—p. 87.
Attempt to Produce Peptic Ulcer by Phrenic-Vagus Anastomosis in Dogs. T. S. Heslop, B. Schofield, W. T. Catton, D. E. Wright and P. A Burstall.—p. 92.

Pulmonary Adenomatosis.—The first case of pulmonary adenomatosis in the United Kingdom to be diagnosed before death occurred in a 36-year-old woman who had complained of lassitude six months before she was seen by the authors at the Hairmyres Hospital in Glasgow. She had had an attack of what was presumed to be pneumonia a month after the onset of the lassitude. The only symptom of diagnostic value was the expectoration of abundant frothy sputum. In the lobectomy specimen taken from her right lung, the disease was present in the form of multiple nodules that had coalesced to produce almost uniform involvement of the lower and medial parts of the lobe. There was no invasion of the pleura, and microscopic examination disclosed a highly differentiated epithelial neoplasm of pronounced papillary architecture and only very restricted powers of replacing the normal lung structures. Mucin formation was not a pronounced feature of the growth. After operation, the remaining portion of the right lung became involved and the disease spread to the left lung. The patient became increasingly more dyspneic and died at home six months after operation. A necropsy was not permitted, and thus the possibility of an extrapulmonary lesion was not conclusively ruled out. The clinical features and natural history of the case, however, are in keeping with descriptions in the literature and justify the diagnosis of pulmonary adenomatosis.

Percutaneous Transhepatic Cholangiography.—In this series of five patients with obstructive jaundice on whom percutaneous transhepatic cholangiography was performed by the injection of 20 ml. of 35% iodopyracet (Diodone) into a bile duct, the procedure was technically successful and clinically noncontributory in four. One patient, in whom the procedure was also technically successful, died from blood and biliary leakage into the peritoneal cavity; this fatality is attributed to failure in preparing the patient for the test with vitamin K. The radiographs obtained by this method were good and permitted a correct diagnosis. In three patients without obstructive jaundice, the procedure was unsuccessful. The authors feel that their method is valuable and should be investigated further, despite the one death. The test ought not to be any more hazardous than liver biopsy, which has been successfully performed a great many times and which requires a larger needle.

British Medical Journal, London

2:683-734 (Sept. 26) 1953

Field Survey of General Practice, 1951-1952. S. J. Hadfield.—p. 683.
Practitioner and Hospital Service. H. Ogilvie.—p. 707.
General Practice and the Hospital. J. G. M. Hamilton.—p. 711.

2:735-786 (Oct. 3) 1953

Treatment of Cancer of Larynx by Interstitial Radium Needles. W. D. Harmer.—p. 735.
Folic-Acid-Excretion Studies in Investigation of Malignant Disease. R. H. Girdwood.—p. 741.
Prevalence of Foot Defects Among Wartime Recruits. D. Hewitt, A. M. Stewart and J. W. Webb.—p. 745.
Incidence, Origin, and Prevention of Certain Foot Defects. D. A. Craigmile.—p. 749.
17-Hydroxycorticosterone Content of Human Ascitic Fluid. C. L. Cope and B. Hurlock.—p. 753.
Piperazine in Treatment of Threadworms in Children: Report on Clinical Trial. R. H. R. White and O. D. Standen.—p. 755.
Experimental Chemotherapy of Oxyuriasis. O. D. Standen.—p. 757.
Vaginal Ulceration Due to Potassium Permanganate. E. A. J. Alment and C. S. Nicol.—p. 759.
Pregnancy and Gaucher's Disease. Y. M. Bromberg, R. Toaff and D. Diengott.—p. 761.
Use of Electrodermatome, with Special Reference to Its Value in Serious Burns. P. Clarkson and D. A. C. Reid.—p. 763.

2:787-840 (Oct. 10) 1953

*Carcinoma of Female Breast: Conservative and Radical Surgery. I. G. Williams, R. S. Murley and M. P. Curwen.—p. 787.
*Treatment by Oestrogens of Pulmonary Metastases from Breast Cancer. B. A. Stoll and F. Ellis.—p. 796.
Ten Years' Clinical Experience of Modified Leucotomy Operations. W. Sargant.—p. 800.
Anal Fissure. E. S. R. Hughes.—p. 803.
Intestinal Protozoa in Mentally Deficient Children. G. D. Belios and W. Cooper.—p. 805.
Hypercalcaemia and Impairment of Renal Function in Generalized Sarcoidosis. C. E. Dent, F. V. Flynn and J. D. N. Nabarro.—p. 808.
Splenic Venography. N. R. Konar and A. N. Sen Gupta.—p. 810.

Carcinoma of the Female Breast.—An analysis is made of 1,044 cases of carcinoma of the breast in women first seen at the same hospital in the period 1930-1939. Since these patients were treated some time ago, follow-ups permit a comparison of the treatments employed. Simple surgery was undertaken in 229 cases, more than half of which were treated by simple excision of the tumor. Radical mastectomy was done in 338 cases, and a modified radical operation in 167. Radium treatment without surgery was used in 149, and x-rays alone in 114. Forty-seven cases remained untreated. Of the patients treated surgically, about two-thirds were also given irradiation. This type of treatment became more frequent toward the end of the period mentioned; at the same time x-rays tended to replace radium, particularly in combination with simple surgery. The 5 year survival rate for lesions treated in stage 1 was 72%; the 10 year rate 51%; the 5 year rate for stage 2 lesions was 39% and the 10 year rate 26%. The rates for each treatment group showed no appreciable departure from these figures despite the fact that simple surgery consisted merely of local excision in more than half the cases. The addition of irradiation did not affect the rates, although it is possible that selection of cases may have concealed some of the benefits of radiotherapy. Attention is drawn to the lower survival rates in the lesions assessed clinically to be in stage 2 but with axillary nodes uninvolved as compared with stage 1 lesions with nodes involved. The mortality of radical mastectomy was 1.2%. Edema of the arm occurred after radical surgery in 14% of the patients, compared with 5% after simple surgery. It was almost twice as frequent when the radical wound gave rise to complications as in those with primary healing. The most impressive finding in this series is the remarkable similarity in survival rates after different methods of treatment. All methods have been equally effective in stages 1 and 2; but all seem to be equally ineffective in prolonging life. It is not known to what extent treatment affected survival. A general conclusion from these data is that, where efficient radiotherapy is available, radical mastectomy should be abandoned in favor of conservative surgery.

Pulmonary Metastases from Breast Cancer.—The histories of 61 patients with pleural and lung metastases from carcinoma of the breast for whom estrogen therapy was prescribed are compared to those of 66 for whom it was not. In the treated group, 31% (19) of the patients survived over 12 months as compared with 7.5% (5) in the untreated group. In the treated group, 26% (16) of the pulmonary lesions showed regression, compared with none in the untreated group. Thirty-nine patients took estrogen for three months or more; 22 (57%) survived seven months or longer. Twenty-two took estrogen for two months or less; 4 (18%) survived over seven months. It may be that results are better with a more prolonged administration of estrogen; but regression occurred in some cases after administration of estrogen for two months. It must be assumed, therefore, that two months is adequate for the establishment of a reaction capable of controlling the disease. The effects of estrogen in these cases are essentially temporary, and no prophylactic effect against the development of pulmonary metastases can be shown.

Bruxelles Medical, Brussels

33:1901-1952 (Sept. 20) 1953

Physiopathology of Arterial Hypertension. F. Renbi.—p. 1909.
*Role of Liver in Metabolism of Estrogenic Bodies. C. Mayer.—p. 1925.

Role of Liver in Metabolism of Estrogenic Bodies.—The fact that the metabolism of estrogens depends on the liver, an antiestrogenic organ affecting both natural and synthetic substances, is shown by various experimental data. Inactivation of estradiol, an ovarian hormone, is accomplished by the liver. It is transformed into estrone and a very weak hormone, estriol. Much more estriol than estrone is produced. The chemical transformation of estradiol into estriol is irreversible. This knowledge illuminates the clinical manifestations designated by the term "hepato-ovarian syndrome." The syndrome is present in patients with hyperfolliculinism caused by hepatic dysfunction. Awareness of this interdependent relationship should caution against the indiscriminate use of natural and synthetic estrogens that has resulted from the popularity of these hormones in recent years.

Canadian Medical Association Journal, Montreal

69:197-348 (Sept.) 1953

Peptic Ulcer. J. A. MacFarlane and J. D. Mills.—p. 233.
Post-Gastrectomy Syndrome. J. D. Mills.—p. 237.
Prepyloric Exclusion in Operation of Gastrectomy for Duodenal Ulcer—Bancroft Procedure. J. D. Mills and W. J. McCracken.—p. 242.
Palliative Treatment of Prolapse of Uterus. S. Gold.—p. 245.
Five Year Survey of Multiple Pregnancies. R. C. Ross and N. W. Philpott.—p. 247.
Rectal Tribrom-Ethanol (Avertin, Bromethol) in Eclamptic Toxaemia. W. D. Frew.—p. 254.
Concerning Strokes. M. Fisher.—p. 257.
After Effects of Western Equine Encephalomyelitis Infection in Man. J. S. Fulton and A. N. Burton.—p. 268.
Primary Peritonitis. J. A. Ryan.—p. 272.
Treacher Collins Syndrome. J. Szlazak.—p. 274.
*Haemorrhage in Anticoagulant Therapy. R. L. MacMillan and K. W. G. Brown.—p. 279.
*Isoniazid in Childhood Tuberculosis. G. Boyd, T. E. Roy and A. Josiukas.—p. 283.
Report on Survival of Patients Treated for Cancer from 1935 to 1947 Inclusive. N. A. McCormick.—p. 288.
Two Cases of Unilateral Blindness Following Anaesthesia with Vascular Hypotension. J. G. Gillan.—p. 294.
Blood Vessel Surgery. G. Murray.—p. 296.
Experience in Pulmonary Resection for Tuberculosis. E. Harrison, G. D. Saxton and W. J. McLaren.—p. 299.
*Tuberculosis of Superficial Lymph Nodes. G. L. Gale.—p. 303.
Treatment of True Widening of Ankle Mortise. P. G. Costigan.—p. 310.

Hemorrhage During Anticoagulant Therapy.—One of four anticoagulants was assigned by random distribution to 489 patients with thromboembolic disorders treated at the Toronto General Hospital. Of the 489 patients, 112 were given heparin (10,000 units per cubic centimeter) intramuscularly. The usual dose of heparin was 150 mg. (1.5 cc.), and this was injected into the gluteal muscles every 12 hours. Maximal prolongation of the clotting time occurred within 3 to 4 hours, with a return to normal in 8 to 10 hours. Hemorrhagic complications occurred in 17 of these 112 patients. Bishydroxycoumarin (Dicumarol) was given by mouth to 123 patients; hemorrhagic complications occurred in 4. Phenindione (Phenylindanedione) was given orally to 133 patients; bleeding did not occur in any of these. Cyclocumarol was given orally to 121 patients, and hemorrhagic complications occurred in 7.

Thus 28 (5.7%) of the 489 patients suffered bleeding that was severe enough to require discontinuation of the anticoagulant therapy. There were five deaths associated with bleeding, and in at least two of these cases bleeding was the main factor causing death. A significantly higher incidence of bleeding was observed in the group receiving heparin intramuscularly than in the groups given phenindione or bishydroxycoumarin. The group receiving cyclocumarol compared unfavorably with that receiving phenindione. Vitamin K_1 and K_1 oxide were effective in correcting hypoprothrombinemia caused by anticoagulants given orally. Daily prothrombin determinations allowed oral administration of anticoagulants to be controlled with slight risk of bleeding. Clotting time determinations were less successful in the control of heparin given intramuscularly. It is possible that, with heparin given intravenously, the control is more precise and the danger of bleeding less.

Isoniazid in Childhood Tuberculosis.—Isoniazid was used for the treatment of 50 children with tuberculosis, including some with tuberculous meningitis, tracheobronchial ulcerations, miliary tuberculosis, extensive lesions of the lung parenchyma, massive mediastinal lymph nodes, pleural effusion, tuberculous pericarditis, tuberculous mastoids, and persistent bacillary positive sinus from a hip. The dose of the drug used up to the end of May, 1952, was 3 mg. per kilogram of body weight. This was increased to 10 mg. per kilogram of body weight after the May, 1952, meeting of the American Trudeau Society. This dose was maintained for from two to four months without toxic symptoms in most of the patients. It was usually reduced to 5 mg. per kilogram of body weight at the end of this time, or sooner, if anorexia developed. Results showed that most human tubercle bacilli are sensitive to isoniazid and do not lose this sensitivity for months. Oral administration produced good plasma levels and, in the presence of meningitis, good spinal fluid levels. There seems, therefore, no indication for parenteral treatment. The drug produced rapid initial beneficial effects, such as weight gains, drop in erythrocyte sedimentation rate, and defervescence in most patients; these were not always maintained and other drugs had to be added later. Cortisone-like effects, or adrenogenic ones, were noted fairly often; they were pronounced in a few cases. The drug may cause increased ketosteroid excretion over a period of months. Isoniazid should not be used without streptomycin in patients with tuberculous meningitis; in early cases of the disease isoniazid may eliminate the necessity for intrathecal therapy when combined with streptomycin given by the intramuscular route alone. Isoniazid should not be used in far advanced cases of meningitis because of its additional disturbing effect on the electrolyte balance and its tendency to produce convulsions. To date, tracheobronchial ulcerations showed the most striking improvements of any type of tuberculosis in children. The characteristic "wheeze" disappeared rapidly, and the ulcers healed within three to six months.

Tuberculosis of Superficial Lymph Nodes.—Of 9,218 patients treated at the Toronto Hospital for Tuberculosis in Weston, Ontario, between 1932 and 1952, 210 (2.3%) had tuberculosis of the superficial lymph nodes. The highest age incidence was in the age group between 15 and 29 years, and there were only 30 patients less than 15 years of age. As infection with the bovine bacillus through milk has now been virtually eliminated from the province of Ontario, tuberculosis of the lymph nodes is no longer predominantly a disease of childhood, but its maximum incidence follows the incidence of tuberculosis in general. Associated tuberculosis in other parts of the body occurred in 185 (88%) of the 210 patients, most commonly in the lungs (161 patients) and bones and joints (46 patients), and this greatly affected the end-results of treatment. Of the 210 patients, 25 were North American Indians and Eskimos who showed the usual low resistance to the disease. Cervical lymph nodes were involved in 194 patients (92%), and 39 of these had generalized involvement of the lymph nodes in the neck, a condition resulting from unhindered lymphatic spread from node to node rather than from blood stream dissemination. Twenty-one of the 39 patients died, indicating an unfavorable prognosis in generalized involvement of the lymph nodes, though the disease in the lymph nodes itself is very rarely the cause of death. Diagnosis by microscopic examination of the tissues may be very difficult and bacteriological proof is the only certain proof. Best results were obtained by long-term intermittent treatment with streptomycin (1 gm. twice a week) combined with daily administration of 10 gm. of *p*-aminosalicylic acid. Any residual mass or sinus may be excised by local resection when the disease has become stationary or quiescent. Isoniazid was not used long enough for evaluation of its effect. Forty-eight patients (23%) died of some form of tuberculosis while in the sanatorium; most of these died before streptomycin became available. At present the mortality is much lower. There will be recurrences after adequate treatment in only 1 to 2% of the patients.

Deutsche medizinische Wochenschrift, Stuttgart

78:1315-1354 (Sept. 25) *1953.* Partial Index

Problems of Chronic Hepatitis. K. Beckmann.—p. 1315.
Late and Permanent Somatic Damage Secondary to Dystrophy. H. W. Bansi.—p. 1318.
*Does Progression into Genuine Diabetes Mellitus Occur from Renal Glycosuria? Follow-Up Examinations in 60 Patients with Renal Glycosuria. H. Robbers and K. Rümelin.—p. 1321.
Gastric Mucus and Gastric Ferments. A. Mahlo.—p. 1323.

Renal Glycosuria and Diabetes Mellitus.—Sixty patients with renal glycosuria were followed up for 2 to 36 years. The duration of the disease exceeded eight years in 47 of the 60 patients. Six of the patients died, but symptoms of genuine diabetes mellitus were not manifested up to the time of death. The causes of death were bone sarcoma, perforating ulcer, coronary thrombosis, apoplectic stroke, ileus, and decrepitude. Follow-up revealed that the glycosuria continued constantly for many years. In rare cases it disappeared completely. Blood sugar curves were normal and did never show an elevated level after a second dose of dextrose given by mouth one hour after a first dose. Subjective complaints such as thirst, fatigue, and pruritus were mainly functional and became less with advanced age. Progression into genuine diabetes mellitus was not observed in any of the 54 patients who survived. The simultaneous occurrence in one person of a gene for renal glycosuria and one for diabetes mellitus is possible but rare. Genuine pancreatic diabetes may be manifested in the course of renal diabetes; these occurrences are independent of one another; therefore, one cannot speak of a progression of renal glycosuria into diabetes mellitus. Renal glycosuria is caused by a hereditary disturbance of the central organ that regulates the internal secretion, resulting in a secondary failure of the cells lining the proximal convoluted tubules of the kidneys to reabsorb the glucose.

Die Medizinische, Stuttgart

No. 37:1177-1212 (Sept. 12) 1953. Partial Index

Acute and Chronic Pyuria in Childhood. H. Kleinschmidt.—p. 1177.
Poliomyelitis—A Disease of Filth or of Civilization. E. Maier.—p. 1180.
Aspects of Spasmophilia: General Convulsions as Manifestation of Spasmophilia. J. Stoermer.—p. 1182.
Problem of Asthma: Observations on Children and Adults. J. Biermann.—p. 1185.
Treatment of Influenza Meningitis. E. Hömmken.—p. 1190.
A Really New Micromethod of Blood Sedimentation. F. Frimberger.—p. 1193.
*Experiences with Use of T Vitamin (Goetsch) in Raising Weak Newborn and Premature Infants. H. Schmidt.—p. 1202.

Vitamin T (Goetsch) in the Care of Newborn and Premature Infants.—Schmidt presents observations on the use of vitamin T (Goetsch) in 28 premature infants and in 52 full-term infants with retarded development. The commercially available vitamin T preparation employed in this study had been demonstrated to contain vitamin B_{12}, folic acid, citrovorum factor (folinic acid), and Lactobacillus bulgaricus factor. In contradistinction to other investigators Schmidt did not commence with very small doses, but administered 5 drops twice daily of the vitamin T preparation even to weak premature infants. Older infants were given 10 drops twice daily and later sometimes 10 drops 3 times daily. The drops were usually given in milk. In one premature infant (weight 1,300 gm.), treatment was continued for eight weeks, but most of the other children received the vitamin T for only from 9 to 21 days. The results obtained were favorable, in that newborn with fluctuating or flat weight curves showed a tendency to increase in weight. The vitamin preparation was well tolerated, the stools remained normal, and no intestinal disturbances resulted, even in the weakest premature infants. The weight increase obtained under the influence of vitamin T medication in premature and poorly developing full-term infants compared favorably with that of a control group of normal infants.

Gazeta Médica Portuguesa, Lisbon

6:429-584 (No. 3) 1953. **Partial Index**

*New Method for Establishing Indications of Hypophysial Roentgen Therapy in Diabetes. (Preliminary Note). E. Pais.—p. 429.

Lymphosarcoma of Mediastinum of Acute Evolution: Diagnosis from Neoplastic Cells in Pericardial Liquid. M. de Alemquer.—p. 432.

Rational Surgical Treatment of Gastric Cancer: Total Gastrectomy. M. Conde.—p. 450.

In Vitro Effects of Vitamin B_{12}, Folic Acid, and Uracil on Bone Marrow in Megaloblastic Anemia: Two Cases. F. Parreira.—p. 527.

New Indications for Hypophysial Roentgen Therapy of Diabetes.—The author observed in previous work that *p*-oxypropiophenone, given to 29 patients with diabetes mellitus, produced hypoglycemia in almost all of them. Hypoglycemia was marked in patients with insulin resistance and in obese hypertensive patients with insulin sensitivity. The effects of the drug were transient. The author believes that hypoglycemia following administration of *p*-oxypropiophenone is due to inhibition of the secretion of glycemia-stimulating hormones, which are overproduced when the hypophysial factor is predominant in diabetes. The method for determining indications for roentgen therapy includes the following steps. Blood is taken from a fasting patient, and the level of glycemia is determined. Immediately after taking the blood, a dose of 1.5 gm. (six tablets of 0.25 gm. each) of *p*-oxypropiophenone is given to the patient by mouth. Half an hour later and for three consecutive hours, blood is drawn at intervals of 30 minutes and the curve of glycemia recorded. If at any time in the course of this procedure, glycemia falls 15% or more in relation to the level of fasting glycemia, a predominant hypophysial disorder in the origin of diabetes and the probabilities of good results from hypophysial roentgen therapy in the given case are indicated. Good results of hypophysial roentgen therapy last longer and are more constant than those of *p*-oxypropiophenone.

Irish Journal of Medical Science, Dublin

No. 333:337-372 (Sept.) 1953. **Partial Index**

Experience in Prevention of Air-Borne Disease. C. Dickson.—p. 337.

Immunity and Hypersensitivity in Tuberculosis. P. D. J. Holland.—p. 345.

Prospect of Childhood Tuberculosis in Dublin. M. Dunlevy.—p. 353.

Journal of Hygiene, London

51:293-425 (Sept.) 1953. **Partial Index**

Interaction of Tetanus Toxin and Antitoxin. B. Cinader and B. Weitz.—p. 293.

Variation in Complement-Fixing Activity of Rickettsia Burneti During Egg Adaptation. M. G. P. Stoker.—p. 311.

Some Effects of Chloramphenicol in the Gut. J. D. Gray.—p. 322.

*Epidemiology of Canicola Fever. W. I. M. McIntyre and H. E. Seiler.—p. 330.

Effect of Tuberculin on Sensitized and Normal Leucocytes. J. Marks and D. M. James.—p. 340.

Bacteriology of Dehydrated Fish: II. Effect of Storage Conditions on Bacterial Flora. J. M. Shewan.—p. 347.

Studies on Respiratory Infection: I. Influence of Particle Size on Respiratory Infection with Anthrax Spores. H. A. Druett, D. W. Henderson, L. Packman and S. Peacock.—p. 359.

Respiratory Retention of Bacterial Aerosols: Experiments with Radioactive Spores. G. J. Harper and J. D. Morton.—p. 372.

Thermal Comfort in Warm and Humid Atmospheres; Observations on Groups and Individuals in Singapore. F. P. Ellis.—p. 386.

Epidemiology of Canicola Fever.—Surveys have shown that from 25 to 40% of dogs reveal evidence of past infection with Leptospira canicola, and, as the carrier state in dogs may last as long as 4½ years, the potential sources of infection must be considerable in most areas. Several explanations have been advanced for the small number of reported human cases in relation to the high rate of dog infection. It has been argued that L. canicola has a low virulence for man and that for human infection to occur very close contact with the dejecta of infective dogs is necessary. It has also been suggested that the incidence in man is higher than is realized and that many cases of human disease are unrecognized. During 1951 all cases of canine leptospirosis, which had been fully investigated at the Veterinary College in Edinburgh, were used as the basis for an inquiry. The owners of dogs that had been recently ill or that were attending for follow-up after earlier infection were asked to give the name of their family physician. After consultation with the practitioners concerned, the families were visited. An inquiry into the home circumstances surrounding the illness of the dog was made, particularly in relation to soiling of the floor by urine and other dejecta. The history of illness among human household contacts was also obtained and the contacts were asked to agree to serologic examination and to submit a sample of urine for analysis. Altogether 137 household contacts were examined and blood samples from 99, or 72.3%, were tested for agglutination against L. canicola. All serums were normal. The results of the present survey and the experience with some reported cases of human canicola fever show that there is great variation in the risk of infection to owners and others living in the same house with diseased dogs. Some other source of infection common to man and dog seems possible. Dog owners should be made aware of the possibilities of infection and of the importance of observing hygienic principles when handling dogs and particularly when dealing with dejecta.

Journal of Laryngology and Otology, London

67:581-640 (Oct.) 1953

Deep Infections of Neck with Special Study of 32 Cases. D. L. Chadwick and C. E. Gabriel.—p. 581.

"Mixed Salivary" Tumours of Upper Respiratory Tract. V. Lambert.—p. 603.

Papillary Cystadenoma of Larynx. D. Ranger and A. C. Thackray—p. 609.

Dysphagia Due to Cervical Spondylosis. F. Bauer.—p. 615.

Journal of Physiology, Cambridge

121:433-640 (Sept.) 1953. **Partial Index**

Gastric Secretion Induced by Histamine and Its Relationship to Rate of Blood Flow. J. E. Thompson and J. R. Vane.—p. 433.

Rate of Sodium Extrusion from Human Erythrocytes. E. J. Harris and T. A. J. Prankerd.—p. 470.

Defects of Colour-Sense Mechanism as Indicated by Accommodation Reflex. E. F. Fincham.—p. 570.

Cardiovascular Responses to Bladder Distension in Paraplegic Patients. D. J. C. Cunningham, L. Guttmann, D. Whitteridge and C. H. Wyndham.—p. 581.

Cholinesterase Activity of Arteries. R. H. S. Thompson and A. Tickner—p. 623.

Cation Exchanges in Sympathetic Ganglia. E. J. Harris and H. McLennan.—p. 629.

Lancet, London

2:579-628 (Sept. 19) 1953

Renal Factors in Production of Hypertension. C. Wilson.—p. 579.

*Carcinoma of Gall-Bladder: Statistical Study. L. Cooke, F. A. Jones and M. K. Keech.—p. 585.

Acid-Base Disturbance and Potassium Depletion in Some Surgical Patients. J. E. Richardson, J. R. Billinghurst and D. W. Vere.—p. 587.

Acroparaesthesiae in Carpal-Tunnel Syndrome. M. Kremer, R. W. Gilliatt, J. S. R. Golding and T. G. Wilson.—p. 590.

Pneumatic-Tourniquet Test in Carpal-Tunnel Syndrome. R. W. Gilliatt and T. G. Wilson.—p. 595.

Intestinal Cul-De-Sac Phenomena in Man. J. Naish and W. M. Capper.—p. 597.

Carcinoma of Gallbladder.—The authors assess the incidence of carcinoma of the gallbladder and evaluate its relationship to gallstones. Cooke and co-workers obtained the registrar-general's figures on carcinoma of gallbladder and bile ducts in England and Wales, and for comparison they examined the necropsy records at the Postgraduate Medical School, Hammersmith, over the 10 years 1941-1950 and at the Central Middlesex Hospital over the 5 years 1947-1951. It was interesting that the proportion of all cancers of the liver and biliary passages, expressed as a percentage of all cases of cancer, was almost identical in the hospital figures and in the registrar-general's return, but there was a reversal of the ratio of carcinoma of the gallbladder to carcinoma of the bile duct. In the hospital necropsy series, bile duct carcinoma is twice as common as carcinoma of the gallbladder, whereas in the registrar-general's figures carcinoma of the bile duct is only a quarter as common as carcinoma of the gallbladder. There can be no doubt that the hospital series is the more accurate of the two. Carcinoma of the bile duct is easily confused with carcinoma of the liver, and it is likely that in the registrar-general's figures some of the bile duct cases were included under the heading of primary carcinoma of the liver. It seems clear that in Britain cancer of the gallbladder accounts for less than 1% of all deaths from cancer. Reports are cited from various countries that show that a high percentage of patients with carcinoma of the gallbladder also have gallstones, the percentages ranging from 57 to 88%. In order to assess the risk of carcinoma of the gallbladder developing in a person with a gallstone, scrutiny was made of all the necropsy records at a hospital having very detailed and accurate records. Carcinoma of the gallbladder was found at necropsy in 3% of 231 patients in whom gallstones were present. Carcinoma, however, is not the only risk associated with gallstones. In analyzing the necropsy records the opportunity was taken to record whether or not the presence of gallstones had contributed to the death of the patient—for example, by producing obstructive jaundice or empyema of the gallbladder. Studied in this way, the gallstones had exerted an appreciable effect. In 30 of the 231 patients with gallstones, 1 in 8, death was the direct consequence of the stones. Evidence is cited that indicates that it seems reasonable to reserve surgery for patients who have troublesome symptoms from their gallstones. The risk of carcinoma is not in itself sufficient reason for advocating cholecystectomy for symptomless gallstones.

2:629-684 (Sept. 26) 1953

Methodolgy of Clinical Science. J. Spence.—p. 629.
*Renal Factors in Production of Hypertension. C. Wilson.—p. 632.
Clinical Pattern of Chronic Bronchitis. N. C. Oswald, J. T. Harold and W. J. Martin.—p. 639.
*Orbital Leucotomy (Isolation of Orbital Cortex by Open Operation). P. M. Tow and W. Lewin.—p. 644.
Pyrexia in the Puerperium. R. M. Calman and J. Gibson.—p. 649.
Cervical Spondylosis Simulating Motor-Neurone Disease. L. A. Liversedge, E. C. Hutchinson and J. B. Lyons.—p. 652.
Malaria Control in Borneo. J. McArthur.—p. 654.
Foreign Body in Ileum. C. M. Ottley.—p. 656.

Renal Factors in Hypertension.—Wilson feels that it is tempting to speculate that the kidneys and adrenals form part of a homeostatic mechanism which, through the control of tissue electrolytes, maintains arteriolar tone and adapts the blood pressure to changes in the internal environment. He discusses the role of the adrenals, assuming that some active principle resembling the salt hormone is involved. It is possible that other adrenal steroids may also play a part. Cortisone is known to produce hypertension under certain conditions. If experiments have established a reasonable presumption that renal hypertension is maintained through some action of the kidney on an adrenal cortical hormone and that this in turn acts through the influence of tissue electrolyte distribution on arteriolar tone, then the first step has been taken toward an understanding of the physiological mechanisms involved in renal hypertension. Discussing kidney lesions and hypertension, Wilson shows that the concept of the vicious circle was a natural corollary of the dual proposition that, on the one hand, renal vascular occlusion gives rise to hypertension and that, on the other, hypertension leads to occlusive vascular lesions. With regard to the application of experimental results the author deals with certain problems of high blood pressure in primary disease of the kidneys, in particular chronic nephritis and unilateral renal disease.

Orbital Leukotomy.—Tow and Lewin practiced orbital leukotomy because of the evidence that the orbital surface, rather than the superolateral surface of the lobe, is concerned with the predominantly emotional and affective aspects of behavior, and that general personality damage is roughly proportional to the amount of frontal tissue destroyed. They regarded the operation as a first step in narrowing the full leukotomy procedure. In their choice of the orbital surface, they were influenced by the work of Scoville (1948 and 1949), who introduced a technique for "undercutting" all three surfaces of the frontal lobe. The operation of orbital leukotomy consists in making a line of cleavage with a brain spatula and a fine suction-tube at the junction of the grey and white matter above the orbital grey matter on each side, extending from the frontal tips back to the level of the base of the anterior clinoid processes, with interruption of the long and short association fibers to the thalamus and to the adjacent frontal cortex. In some cases it was found necessary to sacrifice a main venous tributary running across the face of the frontal pole, but apart from this, no major vessels are divided. By operating under direct vision and with reference to definite landmarks one attempts to produce a discrete isolation of the orbital cortex without damaging the adjacent frontal cortex or its blood supply. The authors had performed between January, 1950, and December, 1951, orbital leukotomy on 20 patients without a surgical death. The only fatality in this series took place 17 months after the operation. The patients were observed throughout their entire postoperative period to date, which now extends from one and a half to three years. Seven of the patients recovered and eight others improved. Recovery or improvement takes place in the first few weeks or months. Because physical and psychological complications are minimal and beneficial effects are comparable with those of prefrontal leukotomy, orbital leukotomy is recommended for trial, particularly in patients with severe intractable tension and disturbed behavior, as an alternative to the standard operation.

Medical Journal of Australia, Sydney

2:197-244 (Aug. 8) 1953

Physiological Principles in Management of Fluid and Electrolyte Problems in Infancy and Childhood. W. B. Macdonald.—p. 197.
Fluid and Electrolyte Problems in Newborn. K. Campbell.—p. 201.
Pathological Physiology, Assessment and Management of "Dehydration" in Entero-Colitis. H. Williams.—p. 203.
Fluid and Electrolyte Problems in Infants and Children: Intestinal Obstruction. E. S. Stuckey.—p. 205.
Minor Epilepsies. D B. Hamilton.—p. 207.
Vitamin D Resistant Rickets. D. Galbraith.—p. 208.
Congenital or Neo-Natal Thrombocytopenic Purpura. S. E. L. Stening.—p. 210.
Recent Trends in Diagnosis and Treatment of Coeliac Disease. C. M. Anderson.—p. 211.
Urinary Excretion of Mercury in Pink Disease: Preliminary Report. F. W. Clements.—p. 213.
Poliomyelitis Virus in Tissue Culture. J. R. Thayer.—p. 215.
Coxsackie Virus Infections in Australia, with Special Reference to Their Epidemiology. N. F. Stanley.—p. 216.

2:245-280 (Aug. 15) 1953. Partial Index

Sociological Problem of Hemiplegia. W. S. Davidson.—p. 248
Problem of Endemic Goitre. F. W. Clements.—p. 251.
Diagnosis by Sense of Smell. C. Engel.—p. 254.
Incidence of Tuberculosis in Queensland in Relation to Climate and Occupation. B. Smith.—p. 258.

2:281-320 (Aug. 22) 1953

*Studies on Long Range Association Between Bulbar Poliomyelitis and Previous Tonsillectomy. R. V. Southcott.—p. 281.
Bloodless Operation for Paronychia. V. J. Kinsella.—p. 298.
Note on Possibility of Obtaining False Blood Group Results for Babies by Testing Cord Blood. B. Liddelow.—p. 299.

Association Between Bulbar Poliomyelitis and Previous Tonsillectomy.—A survey of patients who contracted poliomyelitis during the 1947-1948 epidemic in South Australia showed that, of the 103 patients in whom the disease was associated with paralysis, 40 had bulbar paralysis. Thirty-five of the 40 had previously undergone tonsillectomy; 4 had not. For one patient this information was not obtained. Only 1 of the 35 patients had had a tonsillectomy recently; there was a 15 day interval between tonsillectomy and onset of poliomyelitis, while 16 of the remaining 34 patients had contracted the disease five or more years after the tonsillectomy. No evidence was found of an association between previous tonsillectomy and poliomyelitis other than bulbar; both nonbulbar paralytic and nonparalytic figures were tested. Comparison of age distribution of patients with bulbar and nonbulbar paralytic poliomyelitis showed that none of the 35 patients with bulbar poliomyelitis was younger than 5 years. The curve for the age distribution of the patients with bulbar poliomyelitis was much sharper than that of the patients with nonbulbar poliomyelitis associated with paralysis. Studies on the duration of the association between bulbar poliomyelitis and previous tonsillectomy revealed only short intervals since tonsillectomy in the younger age groups. The effect of the tonsillectomy, that is the strength of the association between bulbar poliomyelitis and previous tonsillectomy, was still significant in the group between 17 and 20 years, suggesting that the duration of the effect is likely to be prolonged since the modal age for tonsillectomy is five or six years. The figures were too small for definite conclusions in the group of patients with bulbar paralysis aged 21 and over. The effect of tonsillectomy lasted at least 9 or 10 years in the group between 12 and 20 years. Longer durations for the association between bulbar poliomyelitis and tonsillectomy, even possibly lifelong, are not excluded and are possible. The age distribution of the patients with bulbar paralysis but who did not have a tonsillectomy suggested that there is an increased liability to contraction of bulbar poliomyelitis with certain increases of age, independent of tonsillectomy. The association between bulbar poliomyelitis and previous tonsillectomy favors the concept that the poliomyelitis virus gains entry to the medulla via the motor pathway from the tonsillar area of the pharynx to the nucleus ambiguus. There is no evidence that the tonsils are specifically protective against this port of entry of the virus, but that the trauma of tonsillectomy renders the motor nerves of the tonsillar region more accessible to the entry of the virus to them from the pharyngeal surface. A brief survey of the patients who contracted poliomyelitis during the 1949-1950 epidemic of poliomyelitis in South Australia showed that of 19 patients with bulbar paralysis 14 had previously been tonsillectomized and 5 had not. In only 1 of the 14 patients was the tonsillectomy recent, with an 11 days interval between tonsillectomy and onset of symptoms.

Medicina, Buenos Aires

13:199-256 (Aug.) 1953. **Partial Index**

Venous Pressure in Fold of Elbow: Clinical and Experimental Study. J. L. Duomarco and R. Rimini.—p. 199.
*Malignant Tumors of Hypophysis. A. Mosovich.—p. 218.
Ballistocardiographic Changes in Sarcoidosis. L. de Soldati, J. Doyle and R. Navarro Viola.—p. 228.

Malignant Tumors of Hypophysis.—There is a small group of hypophysial tumors that, unlike the benign hypophysial adenoma, invade the cranial bones, paranasal sinuses, dura mater, leptomeninges, cerebral nerves, brain stem, and cerebral tissue. The neurological symptoms correspond to the structures in which the tumor grows. They consist mainly of repeated crises of acute headache with nausea and vomiting, ocular and visual disturbances, disorders of hearing, paralysis of the cerebral nerves, trigeminal neuralgia, and, in women, amenorrhea of long duration. The diagnosis is made by roentgenography and tomography. These are likely to show an enormous enlargement and erosion of the sella turcica and the presence of a tumor in the clinoid process, the temporal and occipital bones, the paranasal sinuses, or other structures. The tumor grows slowly and does not metastasize. Roentgen therapy produces temporary improvement. Violent aggravation of the symptoms with multiple paralyses of the cerebral nerves, ocular proptosis, pain of the eyeballs, and photophobia mark the onset of the final stage that lasts a few hours. There is mental disorientation of the patient, acute general convulsions, and finally coma. The author reports two cases. The first patient, a 32-year-old man, had acromegaly for 17 years. Roentgen therapy controlled almost all of the symptoms for four years, during which the patient was able to work. The second patient, a 35-year-old woman, had neurological symptoms for four years prior to the treatment and amenorrhea for the last two years. Roentgen therapy improved moderately the symptoms for six months. The second roentgen treatment failed. In both cases the final stage lasted o two days. It was observed at necropsy that the involvem of the leptomeninges progressed to the pontocerebellar an the protuberance, and the sinus cavernosus in one case to the optic nerves, left gasserian ganglion, and paran sinuses in the other. In both cases the tumor infiltrated sphenoid and right petrous bones. The blood vessels and ne near the tumor were buried in the neoplastic tissue, their structure was well preserved. The author describes histological differences between these tumors and benign hy physial adenomas. The term malignant adenoma is m proper than hypophysial carcinoma, by which the aforem tioned tumors are commonly designated.

Minerva Medica, Turin

44:33-76 (July 7) 1953

Obesity. G. Izar.—p. 33.
Leukemia Associated with Tuberculosis. M. Consolini.—p. 55.
*Treatment of Hyperthyroidism with I^{131}. A. Costa, G. M. Fer E. Marchis and F. Marocco.—p. 58.
Lymphocytogenesis and Assumptions for a Comparison Between I phatic and Myeloid Tissues. G. Fiorio.—p. 63.

Radioactive Iodine in Hyperthyroidism.—The authors I^{131} to treat 18 patients with Basedow's disease and 7 Plummer's disease. They conclude that this treatment sh be limited to aged persons with hyperthyroidism, to t with recurrences after surgery or who failed to respond antithyroid drugs, those in whom hyperthyroidism is a ciated with heart disease, and those who refuse surgery. of the main problems of this treatment is the determina of a suitable dose of I^{131}. Although many methods have used to estimate the effective dose, the best is still to calcu it according to the volume of the gland and the uptake of I^{131}. The initial dose should range from 5 to 10 mc avoid severe local reactions (painful congestion of the thy and dysphagia), thyrotoxic crises, and excessive thyroid hibition resulting in hypothyroidism. Generally the good ef of radioactive iodine therapy become manifest after one two months. If the first dose proved inadequate it is safe to administer additional I^{131} up to a total dose of 20 to 25 mc. An initial dose of 15 to 25 mc. generally ca side-effects as it did in some of the authors' patients. T aggravate the thyrotoxic state and a thyrotoxic crisis foll The authors suggest treating the patients before and after administration of I^{131} with antithyroid drugs. A tracer dos I^{131} should also be given before the treatment is institu

44:77-154 (July 11) 1953

Extraperiosteal Polystan According to J. L. Hansen in Treatmen Cavitary Pulmonary Tuberculosis. G. Censi and P. Maraschio.—p
*Studies on Q Fever in Emilia and Romagna Regions: Epidemic C of a Familial Character in the Bologna Province. C. Badioli V. Nevola.—p. 89.
Uroenteron in Treatment of Gastric and Duodenal Ulcer. D. A. S and A. Grasso.—p. 93.
Use of Nicotine K-Strophanthin in Congestive Heart Failure. A. Mar —p. 100.
Infantile Tuberculosis in Aosta Valley: Diffusion, Evolution, and D Rate. G. Maschio and S. Mancini.—p. 104.

Epidemic of Q Fever.—Numerous cases of febrile influe with or without mild complications of the respiratory a ratus were observed at Ozzano in the province of Bolo during the first six months of 1952. The clinical manifestati were atypical in six of these persons, and pulmonary t due to virus and rickettsiae were suspected. Two of these patients were members of a family of share croppers four whom had also been ill within a short time of each ot Laboratory studies to establish a definite a posteriori d nosis were made on the serum of these patients in July. Si the reaction to the complement fixation test was positive Q fever in all the patients, the serum of the other memb of the family and of other persons who had been ill dur the epidemic was also studied. The reaction was positive 8 of the 14 members of the family and one housewife amo the other persons. Attempts were not made to isolate Rickettsia burneti because of the long interval that had elap from the time of the illness. The disease had become manif with the classic picture of pneumonia in four of nine patients and with a picture of pseudoinfluenza in the other five. Penicillin and sulfonamides had no effect on the disease, and months later the agglutination titer was still elevated. The source of the infection was ascribed to a herd of sheep that ranged near the farmers' house many months of the year. The serum agglutination was positive for Q fever in 3 of the 15 sheep that were studied. The epidemic had begun at the time the births among the animals were more numerous and when the contact was more likely to occur. The members of the family had probably become infected through material contaminated with feces and urine spread in the vicinity of the house by the sheep. For the three persons who had no apparent contact with the animals the source of infection was attributed to fresh cheese they had consumed and that had been prepared from milk of these sheep.

44:521-548 (Sept. 5) 1953

Physiopathology of Nutrition: Theoretical and Practical Progress. G. Di Macco and F. Vacirca.—p. 521.
*Hematic Syndromes During Course of Porphyria. R. Trainito and V. Prato.—p. 529.
Biochemistry of Myocardium and Its Relationships with Systemic Biochemistry. E. Albertini and R. Della Volpe.—p. 534.
Antibiotics and Parapneumothoracic Exudative Pleurisy. B. Tumminello and C. Rossini.—p. 539.

Blood Picture in Patients with Porphyria.—The authors reviewed the cases of porphyria reported in the literature and studied in particular 53 cases in which the blood findings had been discussed. The blood picture varied during the various phases of the disease. Polyglobulism was present (11 cases) in the initial phase and severe anemia (13 cases) during the final stage of the disease when the patient's condition was precarious. The findings of blood chemistry studies were normal during the intermediate phase of the disease when the patient's general condition was not severely impaired. The passage from a state of polyglobulism to one of anemia through an intermediate state with normal blood chemistry findings has been proved by various authors with repeated blood examinations. Polyglobulism, when present, was always normochromic. Because the blood chemistry in patients with porphyria has been studied only during the late phases of the disease, polyglobulism was believed to be more uncommon than it really is. The origin of polyglobulism is ascribed to a stimulating action of the porphyrins on erythropoiesis. This action has a tendency to become attenuated and disappear during the later phases of the disease, and this explains why polyglobulism is less common during those phases. Anemia, when present, was always oligochromic. Several theories have been advanced to explain its origin in patients with porphyria. The finding of large amounts of iron in the liver and spleen of patients in whom porphyria was complicated by a severe anemia seems to confirm Vannotti's theory that it is due to inability of the red blood cells to utilize iron. Studies of the bone marrow during the period of severe anemia revealed a normoblastic erythropoiesis with a large number of erythroblasts. The number of the white blood cells was not altered during the initial phase of the disease, but there was a neutrophilic leukocytosis in the acute phase, whereas the number decreased during the late stages when severe anemia was present. Some authors have reported an increase of the number of lymphocytes over that of neutrophil granulocytes. This proved to be true only in those cases in which the marrow was severely impaired.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

97:2117-2188 (Aug. 15) 1953. Partial Index

*Harmful Effects of Diets Deficient in Proteins. A. Arends and H. O. Nieweg.—p. 2123.
Risk of Stillbirth of Children Late in Order of Birth or Children of Mothers Advanced in Years. D. Hoogendoorn.—p. 2130.

Harmful Effects of Diets Deficient in Proteins.—Arends and Nieweg present the histories of five patients in whom various pathological conditions developed as the result of low protein diets. A woman, aged 52, had eaten a low protein diet for about 18 months because of disturbances in renal function, and for about six weeks her diet had been practically free of protein. After this megaloblastic anemia developed. Liver function tests revealed megaloblastic anemia in a 42-year-old woman whose diet over a period of six years had contained no animal proteins because she had renal disease with hypertension. An 18-year-old boy who had received a diet very low in protein because uremia was always impending, had a blood picture characteristic of erythroblastic anemia. He died and necropsy revealed severe atrophy of the spleen. The fourth patient, a 53-year-old woman, had been given a low protein diet for six months. This woman and the fifth patient, a man aged 45, showed severe liver damage at autopsy. Protein deficiency may have a harmful effect on the liver.

Nordisk Medicin, Stockholm

50:1217-1250 (Sept. 3) 1953. Partial Index

*Burns and Their Treatment. H. Schjelderup.—p. 1221.
Treatment of Burns in Peace and War Time. A. Bertelsen and R. Movin.—p. 1227.
Exposed Ointment Treatment of Burns. K. Skøtt Andresen and H. Tønnesen.—p. 1234.
Clinical Experiences with Intra-Arterial Blood Transfusion. H. Baden.—p. 1236.
Bullet Entrance Without Exit Wound. R. Movin.—p. 1240.

Burns and Their Treatment.—Schjelderup says that shock treatment of burns in adults should be started when the burned area exceeds 15% of the body surface. According to Wallace's rule of 9 for determining the amount of fluids to be given intravenously during the first 24 hours of treatment, the surface of the body is divided into areas of 9 and 18% of the whole; ½ liter colloids and ½ liter sodium chloride solution per 9% of burned surface are given intravenously, together with 2 liters of fluid orally. The estimated amount of fluid is administered in the course of the first 24 hours after the injury, half of it during the first 8 hours, reckoning the time from the moment of the injury, and the rest during the remaining 16 hours. A limit is set at 3 liters of colloids, 3 liters of electrolytes, and 2 liters of fluids orally. For the second day the quantity of fluids is cut in half. A table for computation of the amount of fluids for children is included. Hyperthermia in children is cautioned against. The Evans formula for assessment of the amount of fluids is also given. To control the effect of treatment the urinary output, hemoglobin percentage, and blood pressure must be watched carefully. All deep and extensive burns require whole blood transfusion from the start; half the estimated amount of colloids and electrolytes is replaced by whole blood. The synthetic colloids, such as dextran, Macrodex (6% solution of dextran in 0.9% isotonic sodium chloride solution), and polyvinylpyrolidone (Plasmosan), are recommended. Anemia develops during the granulation period; the only treatment is blood transfusion. The aim is to cover the open surfaces with skin grafts as soon as possible. The hemoglobin percentage must not be allowed to fall below 60, as skin grafts do not take when anemia becomes marked. Wallace's exposure treatment with early excision and grafting is recommended.

Philippine Medical Association Journal, Manila

29:321-388 (July) 1953

Effects of Atomic Explosion on Human Body. P. G. Potenciano.—p. 321.
Bacteriological Examination of Water Samples from Houses of Cases and Contacts of Typhoid Fever and Dysentery and from Public Eating Places. A. P. de Roda and R. Sta. Ana.—p. 346.
Practical Management of Diarrhea as Observed at Louisville Children's Hospital and Louisville General Hospital, Louisville, Ky. C. R. Belmonte.—p. 353.
Intestinal Obstruction. P. N. Mayuga and A. A. Lauengco.—p. 361.

29:391-450 (Aug.) 1953

Widening Indications for Cesarean Section. H. Baja-Panlilio and G. T. Aragon.—p. 391.
Central Control of Intraocular Pressure and Its Relationship to Concepts of Glaucoma. J. V. Tamesis.—p. 398.
Report on Anatomic Measurements of Normal Sella Turcica in Filipinos. F. Torres, G. Gabriel and G. Manigbas-Galang.—p. 405.
Report on Radiographic Measurements of Normal Sella Turcica in Filipinos. P. J. Garcia and A. M. Laxamana.—p. 413.

Practitioner, London

171:229-338 (Sept.) 1953. Partial Index

Bacterial Resistance to Antibiotics. F. R. Selbie.—p. 239.
Early Diagnosis of Cancer. J. Bamforth.—p. 244.
Management of Anticoagulant Therapy. A. Brown.—p. 254.
Liver Function Tests W. Bowman.—p. 261.
Control Salt and Water Balance. W. H. H. Merivale.—p. 267.
Collection of Specimens for Laboratory. G. A. Dunlop.—p. 276.
Review of 87 Patients Receiving Treatment for Pernicious Anaemia. H. Brebner.—p. 280.
Calcium Chloride Aerosol in Treatment of Wheezing. T. H. Howell. —p. 287.

Presse Médicale, Paris

61:1165-1184 (Sept. 19) 1953

*Sleep-Therapy and Cure by Sleep as Psychiatric and Psychosomatic Therapeutics. J. Delay, P. Deniker and Y. Tardieu.—p. 1165.
Five Years' Experience with Male Genital Tuberculosis in Algeria. J. Ducassou.—p. 1166.
New Local Anesthetic with Prolonged Action: Efocaine. G. Seille and M. Klein.—p. 1168.

Sleep Therapy and Cure by Sleep as Psychiatric and Psychosomatic Therapeutics.—A distinction should be made between sleep therapy, which aims to set the autonomic nervous system at rest, and treatment involving the therapeutic aspects of sleep itself. In both methods a neuroplegic, chlorpromazine (10-[γ-dimethylaminopropyl]-2-chlorophenothiazine hydrochloride) is the drug of choice for bringing about prolonged sleep. Results of the use of sleep therapy have been very encouraging in cases of agitation; acute psychosis, mental confusion, and subacute delirium tremens; anxiety, depression, and melancholia; schizophrenic excitation; hallucinatory and delirious syndromes; phobic neurosis, neurasthenia, hysteria, hypochondriasis, and psychosomatic disorders; insomnia resisting other methods of treatment; and toxicomania. In all but the most acutely affected patients the state of sleep induced by chlorpromazine need not be complete, but only pharmacodynamic. The patient must be carefully watched at all times, especially during the beginning of the treatment when rather large doses of the drug are being given in order to begin the sympathicoplegia. Although treatment may have to be continued over a period of several weeks, chlorpromazine is valuable in that it abates tension within 48 hours. The authors feel that sympathicoplegic sleep therapy is more manageable and of greater scope than is cure by sleep.

61:1205-1222 (Sept. 26) 1953

Results of Thorn's Test with Corticotropin (ACTH) in Several Cases of Helminthiasis. H. Galliard, J. Lapierre, M. Larivière and R. Berdonneau.—p. 1205.
New Cardiotonic: "Thevetine" (Digitalis Preparation): Clinical Experiment with 111 Patients. J. Celice, F. Plas and F. Jeanson.—p. 1207.
*Hypophysectomy in Man. P. Détrie.—p. 1209.

Hypophysectomy in Man.—Hypophysectomy has been performed in human beings because of Cushing's syndrome that does not yield to irradiation of the pituitary region or that shows a radioresistant relapse, severe arterial hypertension, severe diabetes with retinopathy and chronic nephritis not improved by adequate doses of insulin, malignant tumors of the breast and prostate, chorioma, and malignant melanoma. The basis for this operation is the apparent correlation between certain tumors and the sex hormones. It has been demonstrated experimentally that hypophysial implants stimulate the evolution of experimental cancers, that hypophysectomy hinders their appearance, and that it stops the action of sex hormones on certain glands. Results of the operations performed so far have been most successful with Cushing's disease, the only condition in which incomplete removal of the gland is authorized, and with chorioma. The operations were followed by death in all the patients with arterial hypertension; that and endocrine disorders seem to constitute the major contraindications to hypophysectomy. Otherwise, it appears not to be a dangerous operation unless the patient is in very poor condition. The main problem from the therapeutic point of view is whether subtotal exeresis of the hypophysis is sufficient for the inhibition of cancerous growths, in view of the fact that it has regenerated in some cases, and whether total exeresis is harmful to the body as a whole, despite the powers of hormone therapy. From the surgical point of view the problem is how to achieve a total hypophysectomy, if it is necessary, without injuring any of the surrounding structures.

Quarterly Journal of Medicine, Oxford

22:261-404 (July) 1953

Cholecystography: Observations on Technique of Examination and Interpretation of its Results. I. R. S. Gordon.—p. 261.
Biochemical and Pathological Studies of Congenital Porphyria. J. E. Kench, F. A. Langley and J. F. Wilkinson.—p. 285.
Bronchiectasis and Bronchostenosis Following Primary Tuberculosis in Infancy and Childhood. H. Williams and C. Anderson.—p. 295.
Anaemia of Adult Scurvy. B. Bronte-Stewart.—p 309.
*Studies in Gout, with Particular Reference to Value of Sodium Salicylate in Treatment. F. G. W. Marson.—p. 309.
Prognosis in Acute Disseminated Encephalomyelitis: With Note on Neuromyelitis Optica. H. G. Miller and M. J. Evans.—p. 347.
Causes of Post-Prandial Attacks of Palpitation and Weakness After Gastric Operation. W. H. Smith, R. Fraser, K. Staynes and J. M Willcox.—p. 381.

Studies in Gout.—The subjects of these studies were 115 gouty patients. All were given crystalline colchicine tablets to relieve symptoms of acute gout. Of 32 suffering from chronic gout, 29 were treated with sodium salicylate. In only one did the blood serum uric acid level initially fail to drop; the patient showed severe renal impairment. A second patient refused to continue treatment; but for the other 27, sodium salicylate administered continuously for periods of up to 34 months had good results. Continuous treatment was shown to be necessary by the failure of an experimental dosage of the drug—90 grains (5.82 gm.) a day for three consecutive days per week—to maintain continuously a lowered serum uric acid level. Sodium salicylate can be tolerated for prolonged periods in a dosage sufficient to maintain the serum uric acid level at a normal or nearly normal level. Tolerance to the drug usually develops within a few weeks. With reasonable control, there is little risk of hemorrhagic complications. Experiments with diets of varying purine content confirmed the belief that the serum uric acid cannot be effectively controlled by the limitation of purine intake, because the change that it does bring about is too slight. The control of serum uric acid achieved by sodium salicylate therapy produced marked alleviation of the symptoms of chronic gout in the patients treated; the destructive changes induced by urate deposition were arrested and partially repaired Twenty patients obtained complete relief from pains in the joints.

Rev. Asociación Médica Argentina, Buenos Aires

67:187-238 (June 15-30) 1953. Partial Index

*Asynchronic Nonsystemic Multiple Malignant Neoplasms: Case. N. Arenas and H. G. Bottaro.—p. 187.
General Physiopathology of Coma (Physiopathology of Conscient Functions). D. Ziziemsky.—p. 190.
Treatment of Residual Cavitation of Thoracoplasty. H. D. Aguilar. —p. 202.
Vaginal Hysterectomy: Indications in Treatment of Genital Prolapse. O. Blanchard and J. M. Gentile.—p. 217.
Revitalization of Skin and of Organism by Implantation of Autoplastic Grafts of Modified Natural Skin: Contribution to Problem of Unproperly So-Called Rejuvenation. I. Zelcer.—p. 226.

Multiple Malignant Neoplasms.—Instances of tumor presenting all or the first two of Billroth's postulates should be reported. According to these postulates, the tumors should have different histological characteristics, should have their origin in different organs, should follow an independent course, and should give rise to metastases according to their proper type. The last postulate may be lacking because metastases are not always present. The authors' patient, a woman 50 years old, had an osteosarcoma removed from the upper third of the left radius at the age of 32, an adenocarcinoma removed from the left breast at the age of 44, and a myosarcoma removed from the left thigh at the age of 49. The patient's father died from gastric cancer. Two brothers died from sarcoma of the thigh and adenoma of the breast, respectively. The remaining four brothers are normal. Multiple cancer, as the cause of death, is extremely rare. If it is identified early, prompt surgical treatment is efficacious.

Riforma Medica, Naples

67:961-988 (Aug. 29) 1953

*Therapy in Epidemic Cerebrospinal Meningitis. G. Izar.—p. 961.
Nicotinic Acid and Changes in Oxygen Saturation of Blood in Venous Stasis. G. Calì, G. Lomeo and L. Nastri.—p. 967.
The Problem of Extracorporeal Oxygenation. S. Armenio.—p. 972.

Penicillin Therapy of Epidemic Meningitis.—The author discusses serum therapy, sulfonamides, and antibiotics in the treatment of epidemic meningitis, and he asserts that the best therapy is parenteral administration of penicillin in adequate doses. Five of his patients recovered completely after administration of that antibiotic. Three of them were given 1,000,000 I. U. of the antibiotic at admission and 500,000 units every three hours thereafter. The temperature returned to normal after 10, 8, and 12 days respectively. Aspecific meningitis, which was ascribed to excess doses of penicillin, developed in two who recovered after administration of the antibiotic was discontinued. The other two patients were given 1,000,000 units of penicillin at admission and 1,500,000 units of penicillin for prolonged action after three hours. This dose was repeated every 24 hours thereafter. On the fourth day the temperature was normal in one patient who recovered completely. A swelling had appeared on the left knee of the other patient suggesting that the meningococci had become localized in the knee. About 50 cc. of fluid containing polynuclear leukocytes and meningococci were removed, and 1,000,000 units of penicillin were introduced. The patient made a full recovery. There were no sequelae in any of the patients.

Rivista di Ostet. e Ginecologia, Florence

8:441-520 (July) 1953. **Partial Index**

Tuberculosis of Female Genital Organs and Streptomycin. L. Kyriakis.—p. 441.
*Study of Postpartum Hemorrhages Due to Afibrinogenemia: Fibrinolytic and Anticoagulant Action of Amniotic Fluid in Cases of Fetal Maceration. G. Vecchietti.—p. 443.
In Situ Cancer of Neck of Uterus. W. Ingiulla and E. Ogier.—p. 453.

Postpartum Hemorrhages Caused by Decrease or Absence of Fibrinogen.—Postpartum hemorrhages resulting from hypofibrinogenemia or afibrinogenemia occur frequently in women with anti-Rh isoimmunization and dead fetuses in utero and, independently from a state of isoimmunization, in women whose fetuses have undergone maceration. Several hypotheses have been advanced to explain the pathogenesis of this condition. Toxic effects of placental and fetal substances may interfere with the liver production of fibrinogen; substances of placental and amniotic origin with a thromboplastinic activity may enter the maternal circulation and cause defibrination of the plasma; or fibrinolytic enzymes originating from the decidua and the placenta may enter the maternal blood stream. These hemorrhages may also be the expression of an exaggerated fibrinolytic defense process following the penetration of thromboplastin into the maternal circulation. Previous studies have indicated that the amniotic fluid has an anticoagulant and fibrinolytic activity. Some authors are of the opinion that the fluid may enter the maternal circulation and cause pronounced blood coagulation defects and not acute embolism. The author studied the amniotic fluid of a woman in the eighth month of pregnancy whose fetus had been dead in utero one month. He removed transabdominally 50 cc. of turbid, reddish amniotic fluid, and four hours later a macerated fetus weighing 690 gm. was delivered. He removed about 18 cc. of cerebrospinal fluid from the third ventricle of the fetus and then studied the effect of the two fluids on the process of blood coagulation. There was a fibrinolytic and a definite heparin-like anticoagulant activity in both. In comparative studies with heparin, the anticoagulant activity of the fluids proved to be equal to that of a fluid containing from 5,000 to 10,000 I. U. of heparin. The amniotic fluid had a greater fibrinolytic activity, the cerebrospinal fluid a greater anticoagulant activity. Thus amniotic fluid penetrating into the maternal circulation may also be responsible for the postpartum hemorrhages that occur in women with anti-Rh isoimmunization with dead fetuses in utero and in those whose fetuses have undergone maceration.

Scandinavian J. of Clin. & Lab. Investigation, Oslo

5:207-298 (No. 3) 1953. **Partial Index**

Effect of Aneurin on Uterine Contractions. S. Timonen and K. A. Schroderus.—p. 207.
Occurrence of Chylomicrons in Blood in Young and Old Persons. A. Grüner and T. Hilden.—p. 236.
Effect of Heparin and Protamine Sulphate on Occurrence of Chylomicrons in Human Blood. A. Grüner, K. Hilden and T. Hilden.—p. 241.
Improved Instrument for Internal Standard Flame Photometry. V. Leppänen and N. Hallman.—p. 250.
Electrometric Method for Determination of Cholinesterase Activity. L. E. Tammelin.—p. 267.
Enzymatic Determination of Uric Acid with Detailed Directions. E. Praetorius and H. Poulsen.—p. 273.
Partition Chromatography of Porphyrins: New Apparatus. G. Y. Kennedy.—p. 281.
*Estimation of Portal Venous Pressure by Occlusive Hepatic Vein Catheterization. H. Krook.—p. 285.

Estimation of Portal Venous Pressure by Occlusive Catheterization of a Hepatic Vein.—A new method recently described by Myers and Taylor for measuring portal venous pressure by occlusive catheterization of a hepatic vein was tried on 10 persons without any symptoms or signs of hepatic disease, on 14 patients with chronic disease of the liver 10 of whom had liver cirrhosis and portal hypertension syndrome, and on 5 patients with congestive heart failure. The pressure recorded from the occluded hepatic vein in those without apparent liver disease ranged from 3 mm. Hg to 10 mm. Hg (average 6.4 mm. Hg). The pressure recorded from the occluded hepatic vein was increased in patients with cirrhosis, the increase usually varying with the severity of the clinical symptoms of hypertension. The pressure recorded in the 10 patients with portal hypertension syndrome varied from 12 mm. Hg to 27 mm. Hg (average 21 mm. Hg). The level of the pressure recorded in the five patients with congestive heart failure, three of whom had constrictive pericarditis, was about the same as that of the systemic vein pressure, i. e., 11 mm. Hg to 20 mm. Hg (average 15 mm. Hg). The pressure recorded from a central, unoccluded hepatic vein was low in both apparently healthy persons and patients with cirrhosis, the averages being 4 mm. Hg and 4.8 mm. Hg, respectively. There is much to suggest that the pressure measured with the aid of a catheter occluding a small peripheral branch of the hepatic vein represents the pressure in the portal vein and that the method is useful for assessing the degree of portal hypertension.

Schweizerische medizinische Wochenschrift, Basel

83:859-882 (Sept. 12) 1953. **Partial Index**

*Morphology and Pathogenesis of Subtotal and Total Coronary Occlusion (Intramural Hematoma, Thrombosis, Arteriosclerosis, and Coronaritis). N. Papacharalampous and H. U. Zollinger.—p. 859.
Appositional, Proximal Growth of Coronary Thrombi. H. U. Zollinger and N. Papacharalampous.—p. 864.
Mechanism of Tumor Formation. A. Graffi.—p. 865.

Morphology and Pathogenesis of Coronary Occlusion.—Macroscopic and microscopic studies made of the coronary arteries of 126 patients who died of coronary occlusion revealed that the occlusion was caused by intramural hematoma associated with coronary sclerosis in 14 (8 men and 6 women between the ages of 47 and 76 years), 11.1%; by intramural hematoma with secondary thrombosis associated with coronary sclerosis in 21 (14 male and 7 female patients between the ages of 12 and 84 years), 16.7%; by simple coronary sclerosis in 30 (21 men and 9 women between the ages of 40 and 79 years), 24%; by coronary thrombosis associated with simple coronary sclerosis in 50 (44 men and 6 women between the ages of 38 and 89 years), 39.5%; and by coronaritis in 11 (8 men and 3 women between the ages of 40 and 73 years), 8.7%. The great significance of coronary arteriosclerosis in coronary

Practitioner, London

171:229-338 (Sept.) 1953. Partial Index

Bacterial Resistance to Antibiotics. F. R. Selbie.—p. 239.
Early Diagnosis of Cancer. J. Bamforth.—p. 244.
Management of Anticoagulant Therapy. A. Brown.—p. 254.
Liver Function Tests. W. Bowman.—p. 261.
Control Salt and Water Balance. W. H. H. Merivale.—p. 267.
Collection of Specimens for Laboratory. G. A. Dunlop.—p. 276.
Review of 87 Patients Receiving Treatment for Pernicious Anaemia. H. Brebner.—p. 280.
Calcium Chlorido Aerosol in Treatment of Wheezing. T. H. Howell. —p. 287.

Presse Médicale, Paris

61:1165-1184 (Sept. 19) 1953

*Sleep-Therapy and Cure by Sleep as Psychiatric and Psychosomatic Therapeutics. J. Delay, P. Deniker and Y. Tardieu.—p. 1165.
Five Years' Experience with Male Genital Tuberculosis in Algeria. J. Ducassou.—p. 1166.
New Local Anesthetic with Prolonged Action: Efocaine. G. Seille and M. Klein.—p. 1168.

Sleep Therapy and Cure by Sleep as Psychiatric and Psychosomatic Therapeutics.—A distinction should be made between sleep therapy, which aims to set the autonomic nervous system at rest, and treatment involving the therapeutic aspects of sleep itself. In both methods a neuroplegic, chlorpromazine (10-[γ-dimethylaminopropyl]-2-chlorophenothiazine hydrochloride) is the drug of choice for bringing about prolonged sleep. Results of the use of sleep therapy have been very encouraging in cases of agitation; acute psychosis, mental confusion, and subacute delirium tremens; anxiety, depression, and melancholia; schizophrenic excitation; hallucinatory and delirious syndromes; phobic neurosis, neurasthenia, hysteria, hypochondriasis, and psychosomatic disorders, insomnia resisting other methods of treatment; and toxicomania. In all but the most acutely affected patients the state of sleep induced by chlorpromazine need not be complete, but only pharmacodynamic. The patient must be carefully watched at all times, especially during the beginning of the treatment when rather large doses of the drug are being given in order to begin the sympathicoplegia. Although treatment may have to be continued over a period of several weeks, chlorpromazine is valuable in that it abates tension within 48 hours. The authors feel that sympathicoplegic sleep therapy is more manageable and of greater scope than is cure by sleep.

61:1205-1222 (Sept. 26) 1953

Results of Thorn's Test with Corticotropin (ACTH) in Several Cases of Helminthiasis. H. Galliard, J. Lapierre, M. Larivière and R. Berdonneau.—p. 1205.
New Cardiotonic: "Thevetine" (Digitalis Preparation): Clinical Experiment with 111 Patients. J. Celice, F. Plas and F. Jeanson.—p. 1207.
*Hypophysectomy in Man. P. Détrie.—p. 1209.

Hypophysectomy in Man.—Hypophysectomy has been performed in human beings because of Cushing's syndrome that does not yield to irradiation of the pituitary region or that shows a radioresistant relapse, severe arterial hypertension, severe diabetes with retinopathy and chronic nephritis not improved by adequate doses of insulin, malignant tumors of the breast and prostate, chorioma, and malignant melanoma. The basis for this operation is the apparent correlation between certain tumors and the sex hormones. It has been demonstrated experimentally that hypophysial implants stimulate the evolution of experimental cancers, that hypophysectomy hinders their appearance, and that it stops the action of sex hormones on certain glands. Results of the operations performed so far have been most successful with Cushing's disease, the only condition in which incomplete removal of the gland is authorized, and with chorioma. The operations were followed by death in all the patients with arterial hypertension; that and endocrine disorders seem to constitute the major contraindications to hypophysectomy. Otherwise, it appears not to be a dangerous operation unless the patient is in very poor condition. The main problem from the therapeutic point of view is whether subtotal exeresis of the hypophysis is sufficient for the inhibition of cancerous growths, in view of the fact that it has regenerated in some cases, and whether total exeresis is harmful to the body as a whole, despite the powers of hormone therapy. From the surgical point of view the problem is how to achieve a total hypophysectomy, if it is necessary, without injuring any of the surrounding structures.

Quarterly Journal of Medicine, Oxford

22:261-404 (July) 1953

Cholecystography: Observations on Technique of Examination and Interpretation of its Results. I. R. S. Gordon.—p. 261.
Biochemical and Pathological Studies of Congenital Porphyria. J. E Kench, F. A. Langley and J. F. Wilkinson.—p. 285.
Bronchiectasis and Bronchostenosis Following Primary Tuberculosis i Infancy and Childhood. H. Williams and C. Anderson.—p. 295.
Anaemia of Adult Scurvy. B. Bronte-Stewart.—p. 309.
*Studies in Gout, with Particular Reference to Value of Sodium Salicylat in Treatment. F. G. W. Marson.—p. 309.
Prognosis in Acute Disseminated Encephalomyelitis: With Note on Neuromyelitis Optica. H. G. Miller and M. J. Evans.—p. 347.
Causes of Post-Prandial Attacks of Palpitation and Weakness Afte Gastric Operation. W. H. Smith, R. Fraser, K. Staynes and J. M Willcox.—p. 381.

Studies in Gout.—The subjects of these studies were 11 gouty patients. All were given crystalline colchicine tablet to relieve symptoms of acute gout. Of 32 suffering fron chronic gout, 29 were treated with sodium salicylate In onl one did the blood serum uric acid level initially fail to drop the patient showed severe renal impairment. A second patien refused to continue treatment; but for the other 27, sodiur salicylate administered continuously for periods of up to 3 months had good results. Continuous treatment was show to be necessary by the failure of an experimental dosage o the drug—90 grains (5.82 gm.) a day for three consecutiv days per week—to maintain continuously a lowered serur uric acid level. Sodium salicylate can be tolerated for prolonged periods in a dosage sufficient to maintain the serur uric acid level at a normal or nearly normal level. Toleranc to the drug usually develops within a few weeks. With reasonable control, there is little risk of hemorrhagic complications. Experiments with diets of varying purine content confirmed the belief that the serum uric acid cannot be effectivel controlled by the limitation of purine intake, because th change that it does bring about is too slight. The control o serum uric acid achieved by sodium salicylate therapy produced marked alleviation of the symptoms of chronic gou in the patients treated; the destructive changes induced b urate deposition were arrested and partially repaired Twent patients obtained complete relief from pains in the joints.

Rev. Asociación Médica Argentina, Buenos Aires

67:187-238 (June 15-30) 1953. Partial Index

*Asynchronic Nonsystemic Multiple Malignant Neoplasms: Case. N. Arena and H. G. Bottaro.—p. 187.
General Physiopathology of Coma (Physiopathology of Conscient Functions). D. Ziziemsky.—p. 190.
Treatment of Residual Cavitation of Thoracoplasty. H. D. Agollai —p. 202.
Vaginal Hysterectomy: Indications in Treatment of Genital Prolapse O. Blanchard and J. M. Gentile.—p. 217.
Revitalization of Skin and of Organism by Implantation of Autoplasti Grafts of Modified Natural Skin: Contribution to Problem of Un properly So-Called Rejuvenation. I. Zelcer.—p. 226.

Multiple Malignant Neoplasms.—Instances of tumor presentin all or the first two of Billroth's postulates should be reported According to these postulates, the tumors should have differen histological characteristics, should have their origin in differen organs, should follow an independent course, and should give rise to metastases according to their proper type. The las postulate may be lacking because metastases are not alway present. The authors' patient, a woman 50 years old, had ar osteosarcoma removed from the upper third of the left radiu at the age of 32, an adenocarcinoma removed from the left breast at the age of 44, and a myosarcoma removed from the left thigh at the age of 49. The patient's father died from gastric cancer. Two brothers died from sarcoma of the thigh and adenoma of the breast, respectively. The remaining four brothers are normal. Multiple cancer, as the cause of death, is extremely rare. If it is identified early, prompt surgical treatment is efficacious.

Riforma Medica, Naples

67:961-988 (Aug. 29) 1953

- *Therapy in Epidemic Cerebrospinal Meningitis. G. Izar.—p. 961.
- Nicotinic Acid and Changes in Oxygen Saturation of Blood in Venous Stasis. G. Calì, G. Lomeo and L. Nastri.—p. 967.
- The Problem of Extracorporeal Oxygenation. S. Armenio.—p. 972.

Penicillin Therapy of Epidemic Meningitis.—The author discusses serum therapy, sulfonamides, and antibiotics in the treatment of epidemic meningitis, and he asserts that the best therapy is parenteral administration of penicillin in adequate doses. Five of his patients recovered completely after administration of that antibiotic. Three of them were given 1,000,000 I. U. of the antibiotic at admission and 500,000 units every three hours thereafter. The temperature returned to normal after 10, 8, and 12 days respectively. Aspecific meningitis, which was ascribed to excess doses of penicillin, developed in two who recovered after administration of the antibiotic was discontinued. The other two patients were given 1,000,000 units of penicillin at admission and 1,500,000 units of penicillin for prolonged action after three hours. This dose was repeated every 24 hours thereafter. On the fourth day the temperature was normal in one patient who recovered completely. A swelling had appeared on the left knee of the other patient suggesting that the meningococci had become localized in the knee. About 50 cc. of fluid containing polynuclear leukocytes and meningococci were removed, and 1,000,000 units of penicillin were introduced. The patient made a full recovery. There were no sequelae in any of the patients.

Rivista di Ostet. e Ginecologia, Florence

8:441-520 (July) 1953. **Partial Index**

- Tuberculosis of Female Genital Organs and Streptomycin. L. Kyriakis. —p. 441.
- *Study of Postpartum Hemorrhages Due to Afibrinogenemia: Fibrinolytic and Anticoagulant Action of Amniotic Fluid in Cases of Fetal Maceration. G. Vecchietti.—p. 443.
- In Situ Cancer of Neck of Uterus. W. Ingiulla and E. Ogier.—p. 453.

Postpartum Hemorrhages Caused by Decrease or Absence of Fibrinogen.—Postpartum hemorrhages resulting from hypofibrinogenemia or afibrinogenemia occur frequently in women with anti-Rh isoimmunization and dead fetuses in utero and, independently from a state of isoimmunization, in women whose fetuses have undergone maceration. Several hypotheses have been advanced to explain the pathogenesis of this condition. Toxic effects of placental and fetal substances may interfere with the liver production of fibrinogen; substances of placental and amniotic origin with a thromboplastinic activity may enter the maternal circulation and cause defibrination of the plasma; or fibrinolytic enzymes originating from the decidua and the placenta may enter the maternal blood stream. These hemorrhages may also be the expression of an exaggerated fibrinolytic defense process following the penetration of thromboplastin into the maternal circulation. Previous studies have indicated that the amniotic fluid has an anticoagulant and fibrinolytic activity. Some authors are of the opinion that the fluid may enter the maternal circulation and cause pronounced blood coagulation defects and not acute embolism. The author studied the amniotic fluid of a woman in the eighth month of pregnancy whose fetus had been dead in utero one month. He removed transabdominally 50 cc. of turbid, reddish amniotic fluid, and four hours later a macerated fetus weighing 690 gm. was delivered. He removed about 18 cc. of cerebrospinal fluid from the third ventricle of the fetus and then studied the effect of the two fluids on the process of blood coagulation. There was a fibrinolytic and a definite heparin-like anticoagulant activity in both. In comparative studies with heparin, the anticoagulant activity of the fluids proved to be equal to that of a fluid containing from 5,000 to 10,000 I. U. of heparin. The amniotic fluid had a greater fibrinolytic activity, the cerebrospinal fluid a greater anticoagulant activity. Thus amniotic fluid penetrating into the maternal circulation may also be responsible for the postpartum hemorrhages that occur in women with anti-Rh isoimmunization with dead fetuses in utero and in those whose fetuses have undergone maceration.

Scandinavian J. of Clin. & Lab. Investigation, Oslo

5:207-298 (No. 3) 1953. **Partial Index**

- Effect of Aneurin on Uterine Contractions. S. Timonen and K. A. Schroderus.—p. 207.
- Occurrence of Chylomicrons in Blood in Young and Old Persons. A. Grüner and T. Hilden.—p. 236.
- Effect of Heparin and Protamine Sulphate on Occurrence of Chylomicrons in Human Blood. A. Grüner, K. Hilden and T. Hilden.—p. 241.
- Improved Instrument for Internal Standard Flame Photometry. V. Leppänen and N. Hallman.—p. 250.
- Electrometric Method for Determination of Cholinesterase Activity. L. E. Tammelin.—p. 267.
- Enzymatic Determination of Uric Acid with Detailed Directions. E. Praetorius and H. Poulsen.—p. 273.
- Partition Chromatography of Porphyrins: New Apparatus. G. Y. Kennedy.—p. 281.
- *Estimation of Portal Venous Pressure by Occlusive Hepatic Vein Catheterization. H. Krook.—p. 285.

Estimation of Portal Venous Pressure by Occlusive Catheterization of a Hepatic Vein.—A new method recently described by Myers and Taylor for measuring portal venous pressure by occlusive catheterization of a hepatic vein was tried on 10 persons without any symptoms or signs of hepatic disease, on 14 patients with chronic disease of the liver 10 of whom had liver cirrhosis and portal hypertension syndrome, and on 5 patients with congestive heart failure. The pressure recorded from the occluded hepatic vein in those without apparent liver disease ranged from 3 mm. Hg to 10 mm. Hg (average 6.4 mm. Hg). The pressure recorded from the occluded hepatic vein was increased in patients with cirrhosis, the increase usually varying with the severity of the clinical symptoms of hypertension. The pressure recorded in the 10 patients with portal hypertension syndrome varied from 12 mm. Hg to 27 mm. Hg (average 21 mm. Hg). The level of the pressure recorded in the five patients with congestive heart failure, three of whom had constrictive pericarditis, was about the same as that of the systemic vein pressure, i. e., 11 mm. Hg to 20 mm. Hg (average 15 mm. Hg). The pressure recorded from a central, unoccluded hepatic vein was low in both apparently healthy persons and patients with cirrhosis, the averages being 4 mm. Hg and 4.8 mm. Hg, respectively. There is much to suggest that the pressure measured with the aid of a catheter occluding a small peripheral branch of the hepatic vein represents the pressure in the portal vein and that the method is useful for assessing the degree of portal hypertension.

Schweizerische medizinische Wochenschrift, Basel

83:859-882 (Sept. 12) 1953. **Partial Index**

- *Morphology and Pathogenesis of Subtotal and Total Coronary Occlusion (Intramural Hematoma, Thrombosis, Arteriosclerosis, and Coronaritis). N. Papacharalampous and H. U. Zollinger.—p. 859.
- Appositional, Proximal Growth of Coronary Thrombi. H. U. Zollinger and N. Papacharalampous.—p. 864.
- Mechanism of Tumor Formation. A. Graffi.—p. 865.

Morphology and Pathogenesis of Coronary Occlusion.—Macroscopic and microscopic studies made of the coronary arteries of 126 patients who died of coronary occlusion revealed that the occlusion was caused by intramural hematoma associated with coronary sclerosis in 14 (8 men and 6 women between the ages of 47 and 76 years), 11.1%; by intramural hematoma with secondary thrombosis associated with coronary sclerosis in 21 (14 male and 7 female patients between the ages of 12 and 84 years), 16.7%; by simple coronary sclerosis in 30 (21 men and 9 women between the ages of 40 and 79 years), 24%; by coronary thrombosis associated with simple coronary sclerosis in 50 (44 men and 6 women between the ages of 38 and 89 years), 39.5%; and by coronaritis in 11 (8 men and 3 women between the ages of 40 and 73 years), 8.7%. The great significance of coronary arteriosclerosis in coronary occlusion was thus demonstrated. Generalized arteriosclerosis, which was observed in some of the patients of each of the five groups, also played an essential part in the causation of coronary occlusion, while intramural hematoma associated or not with thrombosis, thrombosis associated with stenotic coronary sclerosis, and coronaritis were the contributing factors. The left descending branch was the preferred site of the occlusion, while the left circumflex branch was not involved. The results of the authors' studies, particularly the demonstration of coronary thromboses in nearly two thirds of the cases, are of considerable interest with respect to treatment of cardiac infarction with anticoagulants. Anticoagulants may not only prevent the formation of parietal thromboses but also have an effect on the coronary arteries by preventing the appositional growth of the coronary thrombi in the proximal direction. The advantages of the anticoagulant therapy may, therefore, overbalance the occasional disadvantages of a possible increase of intramural hemorrhages.

Semaine des Hôpitaux de Paris

29:2699-2750 (Sept. 18) 1953

Myoclonus Epilepsy of the Type of Dyssynergia Cerebellaris Progressiva of Hunt. R. Amyot.—p. 2699.
*Action of Methyl Androstenediol on Growth in Children. A. Netter and J. Chevallier.—p. 2704.
Gastric Tumors Invaginated into the Duodenum. C. Debray and Y. Muffang.—p. 2713.

Action of Methyl Androstenediol on Growth in Children.—Methyl androstenediol (17α-methyl-Δ^5-androstene-3β, 17β-diol, steroid) is a hormone that when given in therapeutic doses has very weak androgenic properties and a strong stimulating effect on protein anabolism, thereby rendering it particularly suitable for treatment of simple retarded growth in children without accompanying sexual deficiencies. Results of the administration of dipropionate methyl androstenediol to 13 patients (8 boys and 5 girls) of from 6 to 17 years of age and of dipropionate androstenediol to one 22-year-old woman showed positive evidence of statural growth in 6, slight evidence in 4, and no evidence in 4. There was no premature fusion of the epiphyses. Ponderal growth occurred in five. Tolerance of the medicament was good in all patients; there was improvement of the psychic state in four; and appetite increased in two. The authors conclude that the stimulating effect on bone growth of the products used is undeniable, at least on a short-term basis, but that it is impossible to judge whether the final height is influenced by these hormones.

29:2757-2810 (Sept. 26) 1953

Techniques of Portacaval Shunts. P. Santy and P. Marion.—p. 2758.
Fibroadenia and Portal Hypertension: Contribution to Study of Banti's Syndrome. P. Croizat, L. Revol, M. Plauchu and Fayolle.—p. 2768.
Radiologic Study of Cardioesophageal Varices in Portal Hypertension. J. Papillon, F. Pinet and P. Marion.—p. 2775.
*Portal Obstruction. P. Marion.—p. 2781.
Indications for and Results of Portacaval Shunts in Cirrhosis of Liver. A. Vachon and A. Grivet.—p. 2790.

Portal Obstruction.—Banti's description in 1894 of a disease of the spleen characterized by fibroadenomatous splenomegaly has given rise to the incorrect grouping in a single syndrome of a number of different diseases manifested in this manner. Obstruction of the portal system constitutes one of the major diseases wrongly classified in this way. Of the 63 patients operated on by the author or a colleague for "Banti's syndrome" since 1948, 40 had portal obstruction and 23 portal hypertension, of which 4 cases were metaicteric and 19 of the type of Banti. Congenital stenosis of the portal vein is frequent in children, but its manifestations are often delayed until the 10th or 15th year. Inflammatory stenosis, such as that following appendectomy, and thrombosis of the portal vein are found in adults. Contrary to the belief of Whipple, Blakemore, and others that only intrahepatic block causes cirrhosis of the liver, the author finds that cirrhosis may be associated with these extrahepatic obstructions when compensatory portahepatic anastomoses are scarce and weak. The clinical manifestations of portal obstruction are hemorrhages due to the rupture of cardioesophageal varices, followed by painful hypersplenia and, very occasionally, ascites. Obstructions localized at the splenic vein are treated by simple splenectomy. Portal stenosis with residual hypertension after splenectomy requires an anastomosis of the splenic and renal veins. This operation has a very small percentage of relapses after three years. Splenectomy is not indicated for an obstruction of the portal vein because, if a relapse should occur, a splenorenal anastomosis is impossible and an anastomosis, whether direct or by graft, of the superior mesenteric vein and the vena cava is not always possible. Radiographic and manometric checking of the portal system should be practiced systematically during surgery for hemorrhages of splenic origin and before splenectomy whenever diagnosis of splenopathy is in doubt.

Settimana Medica, Florence

41:291-318 (July 15) 1953. Partial Index

*Experimental Studies on Fibrinolytic, Embololytic and Anticoagulant Effect of Intravenous Administration of Pancreatic Enzymes with Particular Reference to Lysis of Emboli in Pulmonary Arteries. F. Zini.—p. 304.
*Use of Hyaluronidase in Renal Lithiasis: Synthetic Critical Review. F. Tinacci.—p. 312.

"Fibrinoclasi" on Emboli of Pulmonary Arteries.—"Fibrinoclasi" is a mixture of two pancreatic enzymes with a pronounced fibrinolytic and anticoagulant activity. In the author's experiments intravenous administration of the preparation caused lysis of the emboli that were localized in the pulmonary arteries of rabbits. He produced the emboli by injecting clots of blood that had been removed from the animal's heart into the marginal vein of its ear. Then he injected the fibrinolytic preparation diluted in isotonic sodium chloride solution very slowly into the same vein or into the heart. Doses of 20, 40, and 100 mg. were used. The coagulation time was prolonged and the plasma fibrinogen level was decreased 4 to 16 hours after the injection. The prothrombin time was markedly prolonged and the plasma accelerating factor was scarce. The fibrinolytic properties of the plasma were increased. After 24 hours there was a return to the initial values. Macroscopic and microscopic studies were made of the pulmonary arteries of the rabbits that had received 100 mg. of the preparation. Although there were no emboliform intravasal formations, there was evidence that the vessels had been impaired and that a phase of resumed function was following a state of particular nonspecific physiopathological impairment. But to obtain the lysis of the emboli, the preparation should be administered as soon as possible after the clots have formed. The preparation is much more effective on clots of recent formation. Because of its effects, the action of "Fibrinoclasi" resembles that of heparin more than that of bishydroxycoumarin (Dicumarol).

Hyaluronidase in Renal Lithiasis.—Administration of hyaluronidase is a new method for treating and preventing renal lithiasis. Its use is based on the concept that the colloids present in the urine prevent the precipitation of urinary crystalloids and a decreased concentration of urinary colloids is responsible for a greater tendency of the urinary crystalloids to precipitate and cause stone formation. Since it was found that the urinary colloidal activity is more pronounced in persons with a normal urinary apparatus than in patients with renal lithiasis, injections of hyaluronidase were made to increase the concentration of the colloids in the urine and thus prevent or arrest the formation of stones. The action of hyaluronidase in patients with renal lithiasis is indirect. Hyaluronic acid is released at the site of the injection; the connective barrier begins to reconstitute itself while the hyaluronidase action is dissipated. During this phase excess hyaluronic acid or a similar substrate passes into the blood, is excreted in the urine, and thus acts as a protective colloid. The author believes that to be effective the treatment should be continued indefinitely because of the transitory action of the enzyme. But, since a prolonged administration of hyaluronidase may cause side-effects or produce an increased serum concentration of antihyaluronidase that would render useless the injected enzyme, he suggests the use of hyaluronic acid or chondroitin sulfuric acid. These have the same effect on the urine colloidal activity as subcutaneous injections of hyaluronidase, but, since they do not have an antigen power nor the characteristics of haptens, their parenteral or intravenous administration could be continued indefinitely without harm to the organism.

South African Medical Journal, Cape Town

27:705-732 (Aug. 22) 1953. Partial Index

Recent Advances in Virus Diseases. T. H. Weller.—p. 705.
Man and His Eating Utensils: Suggested Approach to Control of Utensil Diseases. A. L. Ferguson.—p. 713.
*Effect of Thyroid Extract in Hypertension. B. A. Bradlow, M. McGregor, M. M. Zion and T. H. Bothwell.—p. 717.

Thyroid Extract in Hypertension.—Bradlow and associates attempted to reproduce the encouraging results that Menof obtained with thyroid extract in many hypertensive subjects. They gave thyroid extract to 22 patients with hypertension after a control period of placebo administration. Two out of 18 patients had a decrease in diastolic pressure of more than 15 mm. Hg on no treatment or on placebo therapy, while in 2 out of 25 trials there was a decrease in diastolic pressure of more than 15 mm. Hg during thyroid therapy. It does not appear, therefore, that thyroid extract in the dose used has any dramatic effect, beneficial or otherwise, on the level of blood pressure or on the symptoms of essential hypertension.

27:733-756 (Aug. 29) 1953

*The Value of Penicillin and Sulphadiazine Used Separately and in Combination in 200 Cases of Pneumonia. L. D. Erasmus.—p. 733.
Gastro-Oesophageal Regurgitation: Its Incidence and Relation to Symptoms. L. Werbeloff and C. Merskey.—p. 739.
Modern Trends in Pharmacology and Therapeutics in Relation to Nutrition. D. G. Steyn.—p. 741.
New Preparations and Appliances: A Portable Thermometer Stand. I. Mirvish.—p. 747.

Penicillin and Sulfadiazine in Pneumonia.—Two hundred Bantu patients with pneumonia were divided into three groups. Uniformity was maintained with regard to sex, age, duration of illness before admission, temperature at beginning of treatment, and anatomic distribution of lesions. Those of the first group were treated with penicillin, those of the second with sulfadiazine, and those of the third with both. The evidence gained by tabulating the mean duration of pyrexia in the three groups indicates that penicillin and sulfadiazine are probably equally effective in the treatment of pneumonia and that there is nothing to be gained by administering both simultaneously. In fact, the figures, so far as they go, indicate that this practice may even be harmful. The well-known additive effect of penicillin and sulfadiazine in vitro is not reflected in the results obtained in the present study. In the group treated with penicillin, delayed resolution of the disease showed a relation to the insensitivity in vitro of the causative bacteria to the treatment prescribed. This relationship was seen to a lesser extent in the other two groups. The majority of cases with resistant bacteria in the sulfadiazine group resolved rapidly, however; this phenomenon was not seen in the other groups. It appears that sensitivity tests in vitro are of little value in predicting the outcome of any particular case when sulfadiazine is employed, but may be of value in cases treated with penicillin. All things considered, the results of treatment with penicillin appear to be slightly superior to those obtained with the other two methods.

Tuberkulosearzt, Stuttgart

7:507-572 (Sept.) 1953. Partial Index

Therapeutic Use of Aerosols in Nonspecific Bronchopulmonary Diseases. J. M. Kapferer.—p. 508.
*Development of Resistance and Therapeutic Effect with Isoniazid After Three and Six Months of Treatment. G. Berg, G. Herholz and G. Meissner.—p. 519.
Destructive Effects on Erythrocytes and Patients with Tuberculosis. H. Böttner and B. Schlegel.—p. 525.
Roentgenologic Differential Diagnosis of Multiple Coarse Nodular Pulmonary Foci. H. Braun and P. Weicksel.—p. 533.

Development of Resistance to Isoniazid.—Berg and co-workers investigated the reduction in the sensitivity of tubercle bacilli to isoniazid (isonicotinic acid hydrazid). The development of resistance during the first three months of isoniazid treatment could be ascertained on 119 patients; the dependence of the appearance of resistant strains on the form of tuberculosis could be studied on 183 patients; and for ascertaining the effect of a six month course of isoniazid therapy, 80 patients were available. It was observed that bacteriological resistance against isoniazid develops rather rapidly during the first three months of therapy; it increases moderately during the second three months. It develops with greater rapidity and greater frequency in patients with chronic tuberculosis who have larger pulmonary cavities than in patients with new exudative forms of tuberculosis. There is a close statistical relationship between reduction in sensitivity of the tubercle bacilli and the failure of therapy. If treatment is continued beyond the first three months, however, it does not necessarily follow that the presence of strains that are still sensitive implies a favorable prognosis for the carrier nor does presence of resistant strains necessarily imply an unfavorable prognosis. After the patient has been treated with isoniazid for three months without much success, the clinician should ask himself whether it would not be advisable to resort to collapse therapy. If bacterial resistance remains constant, it is advisable either to change to another chemotherapeutic substance or to try a combination of chemotherapeutic and antibiotic drugs. It should be remembered that the main effect of treatment with isoniazid is obtained during the first three months, and, if it has not materialized then, it can hardly be expected later on.

Ugeskrift for Laeger, Copenhagen

115:1139-1170 (July 23) 1953. Partial Index

*Treatment of Acquired Hemolytic Anemia with ACTH and Cortisone. H. Letman.—p. 1139.
Immunohemolytic Anemia. L. K. Christensen.—p. 1145.
Hemolytic Anemia in Hepatic Disorders. L. K. Christensen.—p. 1152.
Cation Exchange Method for Determining Free Hydrochloric Acid in Stomach Without Intubation. E. Hofgaard.—p. 1154.
Prophylactic Treatment of Migraine Tested with New Preparation b-(2-Diethyl-amino-Ethoxy) Naphthalin. T. D. Nielsen.—p. 1156.
Case of Air Embolism Treated with Procaine Intravenously. K. M. Jensen.—p. 1159.

Treatment of Acquired Hemolytic Anemia with Corticotropin and Cortisone.—Four patients with immunohemolytic anemia were treated with corticotropin and cortisone with good results. In the first two patients symptoms returned after a short course of treatment, but remission was maintained for seven and six months, respectively, by the administration of 50 mg. of cortisone daily, and three months after treatment ended there had been no recurrence. In the other two patients recovery seemed to occur after a short course of corticotropin and cortisone treatment. Letman states that these cases together with 24 from the literature bring to 28 the number of cases published in which immunohemolytic anemia has been treated with corticotropin and cortisone, with satisfactory immediate results in 25. Most cases seem to recur after a short course of treatment, but with long-continued cortisone treatment in moderate doses the remission can probably be maintained in many cases. If not, splenectomy must be done, but not until the patient has been brought into a satisfactory condition with corticotropin or cortisone. Parallel with the treatment and improvement in the hemolytic anemia there was a reduction in autoimmunization and in osmotic fragility.

115:1203-1236 (Aug. 6) 1953. Partial Index

Guidance in Treatment of Respiratory Complaints in Poliomyelitis. B. Ibsen.—p. 1203.
Prediction of Epidemic Wave of Poliomyelitis. H. Petersen.—p. 1207.
Problems of Poliomyelitis Infection. A. Maag.—p. 1212.
*Leiodystonic Syndrome in Indigenous Disease. P. H. Pock-Steen.—p. 1216.

Leiodystonic Syndrome in Indigenous Diseases.—In different chronic disorders, mainly enterogenic toxemia, a symptom complex has been manifested that Pock-Steen designates as the leiodystonic syndrome. It corresponds in all details but in different intensity to the tropical disease dystonia. Four typical cases are described, in which treatment with moderate doses of corticotropin (ACTH) gave good results. All in all, a score of such cases have been observed. The syndrome appears as a nosographic entity and includes neurocirculatory, gastrointestinal, and psychasthenic phenomena. It is the clinical expression of glucocorticoid deficiency and differs from Addison's occlusion was thus demonstrated. Generalized arteriosclerosis, which was observed in some of the patients of each of the five groups, also played an essential part in the causation of coronary occlusion, while intramural hematoma associated or not with thrombosis, thrombosis associated with stenotic coronary sclerosis, and coronaritis were the contributing factors. The left descending branch was the preferred site of the occlusion, while the left circumflex branch was not involved. The results of the authors' studies, particularly the demonstration of coronary thromboses in nearly two thirds of the cases, are of considerable interest with respect to treatment of cardiac infarction with anticoagulants. Anticoagulants may not only prevent the formation of parietal thromboses but also have an effect on the coronary arteries by preventing the appositional growth of the coronary thrombi in the proximal direction. The advantages of the anticoagulant therapy may, therefore, overbalance the occasional disadvantages of a possible increase of intramural hemorrhages.

Semaine des Hôpitaux de Paris

29:2699-2750 (Sept. 18) 1953

Myoclonus Epilepsy of the Type of Dyssynergia Cerebellaris Progressiva of Hunt. R. Amyot.—p. 2699.
*Action of Methyl Androstenediol on Growth in Children. A. Netter and J. Chevallier.—p. 2704.
Gastric Tumors Invaginated into the Duodenum. C. Debray and Y. Muffang.—p. 2713.

Action of Methyl Androstenediol on Growth in Children.—Methyl androstenediol (17 α-methyl-Δ^5-androstene-3 β, 17 β-diol, steroid) is a hormone that when given in therapeutic doses has very weak androgenic properties and a strong stimulating effect on protein anabolism, thereby rendering it particularly suitable for treatment of simple retarded growth in children without accompanying sexual deficiencies. Results of the administration of dipropionate methyl androstenediol to 13 patients (8 boys and 5 girls) of from 6 to 17 years of age and of dipropionate androstenediol to one 22-year-old woman showed positive evidence of statural growth in 6, slight evidence in 4, and no evidence in 4. There was no premature fusion of the epiphyses. Ponderal growth occurred in five. Tolerance of the medicament was good in all patients; there was improvement of the psychic state in four; and appetite increased in two. The authors conclude that the stimulating effect on bone growth of the products used is undeniable, at least on a short-term basis, but that it is impossible to judge whether the final height is influenced by these hormones.

29:2757-2810 (Sept. 26) 1953

Techniques of Portacaval Shunts. P. Santy and P. Marion.—p. 2758.
Fibroadenia and Portal Hypertension: Contribution to Study of Banti's Syndrome. P. Croizat, L. Revol, M. Plauchu and Fayolle.—p. 2768.
Radiologic Study of Cardioesophageal Varices in Portal Hypertension. J. Papillon, F. Pinet and P. Marion.—p. 2775.
*Portal Obstruction. P. Marion.—p. 2781.
Indications for and Results of Portacaval Shunts in Cirrhosis of Liver. A. Vachon and A. Grivet.—p. 2790.

Portal Obstruction.—Banti's description in 1894 of a disease of the spleen characterized by fibroadenomatous splenomegaly has given rise to the incorrect grouping in a single syndrome of a number of different diseases manifested in this manner. Obstruction of the portal system constitutes one of the major diseases wrongly classified in this way. Of the 63 patients operated on by the author or a colleague for "Banti's syndrome" since 1948, 40 had portal obstruction and 23 portal hypertension, of which 4 cases were metaicteric and 19 of the type of Banti. Congenital stenosis of the portal vein is frequent in children, but its manifestations are often delayed until the 10th or 15th year. Inflammatory stenosis, such as that following appendectomy, and thrombosis of the portal vein are found in adults. Contrary to the belief of Whipple, Blakemore, and others that only intrahepatic block causes cirrhosis of the liver, the author finds that cirrhosis may be associated with these extrahepatic obstructions when compensatory portahepatic anastomoses are scarce and weak. The clinical manifestations of portal obstruction are hemorrhages due to the rupture of cardioesophageal varices, followed by painful hypersplenia and, very occasionally, ascites. Obstructions localized at the splenic vein are treated by simple splenectomy. Portal stenosis with residual hypertension after splenectomy requires an anastomosis of the splenic and renal veins. This operation has a very small percentage of relapses after three years. Splenectomy is not indicated for an obstruction of the portal vein because, if a relapse should occur, a splenorenal anastomosis is impossible and an anastomosis, whether direct or by graft, of the superior mesenteric vein and the vena cava is not always possible. Radiographic and manometric checking of the portal system should be practiced systematically during surgery for hemorrhages of splenic origin and before splenectomy whenever diagnosis of splenopathy is in doubt.

Settimana Medica, Florence

41:291-318 (July 15) 1953. Partial Index

*Experimental Studies on Fibrinolytic, Embololytic and Anticoagulant Effect of Intravenous Administration of Pancreatic Enzymes with Particular Reference to Lysis of Emboli in Pulmonary Arteries. F. Zini.—p. 304.
*Use of Hyaluronidase in Renal Lithiasis: Synthetic Critical Review. F. Tinacci.—p. 312.

"Fibrinoclasi" on Emboli of Pulmonary Arteries.—"Fibrinoclasi" is a mixture of two pancreatic enzymes with a pronounced fibrinolytic and anticoagulant activity. In the author's experiments intravenous administration of the preparation caused lysis of the emboli that were localized in the pulmonary arteries of rabbits. He produced the emboli by injecting clots of blood that had been removed from the animal's heart into the marginal vein of its ear. Then he injected the fibrinolytic preparation diluted in isotonic sodium chloride solution very slowly into the same vein or into the heart. Doses of 20, 40, and 100 mg. were used. The coagulation time was prolonged and the plasma fibrinogen level was decreased 4 to 16 hours after the injection. The prothrombin time was markedly prolonged and the plasma accelerating factor was scarce. The fibrinolytic properties of the plasma were increased. After 24 hours there was a return to the initial values. Macroscopic and microscopic studies were made of the pulmonary arteries of the rabbits that had received 100 mg. of the preparation. Although there were no emboliform intravasal formations, there was evidence that the vessels had been impaired and that a phase of resumed function was following a state of particular nonspecific physiopathological impairment. But to obtain the lysis of the emboli, the preparation should be administered as soon as possible after the clots have formed. The preparation is much more effective on clots of recent formation. Because of its effects, the action of "Fibrinoclasi" resembles that of heparin more than that of bishydroxycoumarin (Dicumarol).

Hyaluronidase in Renal Lithiasis.—Administration of hyaluronidase is a new method for treating and preventing renal lithiasis. Its use is based on the concept that the colloids present in the urine prevent the precipitation of urinary crystalloids and a decreased concentration of urinary colloids is responsible for a greater tendency of the urinary crystalloids to precipitate and cause stone formation. Since it was found that the urinary colloidal activity is more pronounced in persons with a normal urinary apparatus than in patients with renal lithiasis, injections of hyaluronidase were made to increase the concentration of the colloids in the urine and thus prevent or arrest the formation of stones. The action of hyaluronidase in patients with renal lithiasis is indirect. Hyaluronic acid is released at the site of the injection; the connective barrier begins to reconstitute itself while the hyaluronidase action is dissipated. During this phase excess hyaluronic acid or a similar substrate passes into the blood, is excreted in the urine, and thus acts as a protective colloid. The author believes that to be effective the treatment should be continued indefinitely because of the transitory action of the enzyme. But, since a prolonged administration of hyaluronidase may cause side-effects or produce an increased serum concentration of antihyaluronidase that would render useless the injected enzyme, he suggests the use of hyaluronic acid or chondroitin sulfuric acid. These have the same effect on the urine colloidal activity as subcutaneous injections of hyaluronidase, but, since they do not have an antigen power nor the characteristics of haptens, their parenteral or intravenous administration could be continued indefinitely without harm to the organism.

South African Medical Journal, Cape Town

27:705-732 (Aug. 22) 1953. Partial Index

Recent Advances in Virus Diseases. T. H. Weller.—p. 705.
Man and His Eating Utensils: Suggested Approach to Control of Utensil Diseases. A. L. Ferguson.—p. 713.
*Effect of Thyroid Extract in Hypertension. B. A. Bradlow, M. McGregor, M. M. Zion and T. H. Bothwell.—p. 717.

Thyroid Extract in Hypertension.—Bradlow and associates attempted to reproduce the encouraging results that Menof obtained with thyroid extract in many hypertensive subjects. They gave thyroid extract to 22 patients with hypertension after a control period of placebo administration. Two out of 18 patients had a decrease in diastolic pressure of more than 15 mm. Hg on no treatment or on placebo therapy, while in 2 out of 25 trials there was a decrease in diastolic pressure of more than 15 mm. Hg during thyroid therapy. It does not appear, therefore, that thyroid extract in the dose used has any dramatic effect, beneficial or otherwise, on the level of blood pressure or on the symptoms of essential hypertension.

27:733-756 (Aug. 29) 1953

*The Value of Penicillin and Sulphadiazine Used Separately and in Combination in 200 Cases of Pneumonia. L. D. Erasmus.—p. 733.
Gastro-Oesophageal Regurgitation: Its Incidence and Relation to Symptoms. L. Werbeloff and C. Merskey.—p. 739.
Modern Trends in Pharmacology and Therapeutics in Relation to Nutrition. D. G. Steyn.—p. 741.
New Preparations and Appliances: A Portable Thermometer Stand. I. Mirvish.—p. 747.

Penicillin and Sulfadiazine in Pneumonia.—Two hundred Bantu patients with pneumonia were divided into three groups. Uniformity was maintained with regard to sex, age, duration of illness before admission, temperature at beginning of treatment, and anatomic distribution of lesions. Those of the first group were treated with penicillin, those of the second with sulfadiazine, and those of the third with both. The evidence gained by tabulating the mean duration of pyrexia in the three groups indicates that penicillin and sulfadiazine are probably equally effective in the treatment of pneumonia and that there is nothing to be gained by administering both simultaneously. In fact, the figures, so far as they go, indicate that this practice may even be harmful. The well-known additive effect of penicillin and sulfadiazine in vitro is not reflected in the results obtained in the present study. In the group treated with penicillin, delayed resolution of the disease showed a relation to the insensitivity in vitro of the causative bacteria to the treatment prescribed. This relationship was seen to a lesser extent in the other two groups. The majority of cases with resistant bacteria in the sulfadiazine group resolved rapidly, however; this phenomenon was not seen in the other groups. It appears that sensitivity tests in vitro are of little value in predicting the outcome of any particular case when sulfadiazine is employed, but may be of value in cases treated with penicillin. All things considered, the results of treatment with penicillin appear to be slightly superior to those obtained with the other two methods.

Tuberkulosearzt, Stuttgart

7:507-572 (Sept.) 1953. Partial Index

Therapeutic Use of Aerosols in Nonspecific Bronchopulmonary Diseases. J. M. Kapferer.—p. 508.
*Development of Resistance and Therapeutic Effect with Isoniazid After Three and Six Months of Treatment. G. Berg, G. Herholz and G. Meissner.—p. 519.
Destructive Effects on Erythrocytes and Patients with Tuberculosis. H. Böttner and B. Schlegel.—p. 525.
Roentgenologic Differential Diagnosis of Multiple Coarse Nodular Pulmonary Foci. H. Braun and P. Weicksel.—p. 533.

Development of Resistance to Isoniazid.—Berg and co-workers investigated the reduction in the sensitivity of tubercle bacilli to isoniazid (isonicotinic acid hydrazid). The development of resistance during the first three months of isoniazid treatment could be ascertained on 119 patients; the dependence of the appearance of resistant strains on the form of tuberculosis could be studied on 183 patients; and for ascertaining the effect of a six month course of isoniazid therapy, 80 patients were available. It was observed that bacteriological resistance against isoniazid develops rather rapidly during the first three months of therapy; it increases moderately during the second three months. It develops with greater rapidity and greater frequency in patients with chronic tuberculosis who have larger pulmonary cavities than in patients with new exudative forms of tuberculosis. There is a close statistical relationship between reduction in sensitivity of the tubercle bacilli and the failure of therapy. If treatment is continued beyond the first three months, however, it does not necessarily follow that the presence of strains that are still sensitive implies a favorable prognosis for the carrier nor does presence of resistant strains necessarily imply an unfavorable prognosis. After the patient has been treated with isoniazid for three months without much success, the clinician should ask himself whether it would not be advisable to resort to collapse therapy. If bacterial resistance remains constant, it is advisable either to change to another chemotherapeutic substance or to try a combination of chemotherapeutic and antibiotic drugs. It should be remembered that the main effect of treatment with isoniazid is obtained during the first three months, and, if it has not materialized then, it can hardly be expected later on.

Ugeskrift for Laeger, Copenhagen

115:1139-1170 (July 23) 1953. Partial Index

*Treatment of Acquired Hemolytic Anemia with ACTH and Cortisone. H. Letman.—p. 1139.
Immunohemolytic Anemia. L. K. Christensen.—p. 1145.
Hemolytic Anemia in Hepatic Disorders. L. K. Christensen.—p. 1152.
Cation Exchange Method for Determining Free Hydrochloric Acid in Stomach Without Intubation. E. Hofgaard.—p. 1154.
Prophylactic Treatment of Migraine Tested with New Preparation b-(2-Diethyl-amino-Ethoxy) Naphthalin. T. D. Nielsen.—p. 1156.
Case of Air Embolism Treated with Procaine Intravenously. K. M. Jensen.—p. 1159.

Treatment of Acquired Hemolytic Anemia with Corticotropin and Cortisone.—Four patients with immunohemolytic anemia were treated with corticotropin and cortisone with good results. In the first two patients symptoms returned after a short course of treatment, but remission was maintained for seven and six months, respectively, by the administration of 50 mg. of cortisone daily, and three months after treatment ended there had been no recurrence. In the other two patients recovery seemed to occur after a short course of corticotropin and cortisone treatment. Letman states that these cases together with 24 from the literature bring to 28 the number of cases published in which immunohemolytic anemia has been treated with corticotropin and cortisone, with satisfactory immediate results in 25. Most cases seem to recur after a short course of treatment, but with long-continued cortisone treatment in moderate doses the remission can probably be maintained in many cases. If not, splenectomy must be done, but not until the patient has been brought into a satisfactory condition with corticotropin or cortisone. Parallel with the treatment and improvement in the hemolytic anemia there was a reduction in autoimmunization and in osmotic fragility.

115:1203-1236 (Aug. 6) 1953. Partial Index

Guidance in Treatment of Respiratory Complaints in Poliomyelitis. B. Ibsen.—p. 1203.
Prediction of Epidemic Wave of Poliomyelitis. H. Petersen.—p. 1207.
Problems of Poliomyelitis Infection. A. Maag.—p. 1212.
*Leiodystonic Syndrome in Indigenous Disease. P. H. Pock-Steen.—p. 1216.

Leiodystonic Syndrome in Indigenous Diseases.—In different chronic disorders, mainly enterogenic toxemia, a symptom complex has been manifested that Pock-Steen designates as the leiodystonic syndrome. It corresponds in all details but in different intensity to the tropical disease dystonia. Four typical cases are described, in which treatment with moderate doses of corticotropin (ACTH) gave good results. All in all, a score of such cases have been observed. The syndrome appears as a nosographic entity and includes neurocirculatory, gastrointestinal, and psychasthenic phenomena. It is the clinical expression of glucocorticoid deficiency and differs from Addison's disease, where mineralocorticoid deficiency dominates the picture. The prognosis is good. The most important symptoms—hypotension, hypoglycemia, reduced basal metabolism, hypovitaminosis B_2, mydriasis and psychasthenia—seem to depend partly on insufficiency of the adrenal cortex and partly on a secondary compensatory hyperadrenalinemia.

115:1237-1266 (Aug. 13) 1953. **Partial Index**

•Epidemic (?) Vegetative Neuritis. T. Fog.—p. 1244.
Acute Cryptogenic Infantile Hemoplegia: Review and Case with Noteworthy Electroencephalographic Findings. S. Brandt.—p. 1251.
Changed Model of Krogh's Metabolism Apparatus: Preliminary Clinical Experimental Results. B. Strange.—p. 1255.

Epidemic (?) Vegetative Neurosis.—Fog reports 10 cases of a disorder characterized by sudden onset, headache, and often malaise and vomiting. In seven cases moderate fever was noted. There were painful paresthesia in the extremities with visible and often pronounced hyperhidrosis, together with symptoms of vascular spasm in the extremities, psycholability, and fatigue. Although precordial pain was frequent, repeated electrocardiograms revealed no changes. The general condition was good. The cerebrospinal fluid, examined in five cases, was normal. The cases occurred during a poliomyelitis epidemic, but paralysis appeared only in one instance, in which the reflexes were lively. The course was marked by fluctuations that gradually decreased and disappeared. In six cases there were marked recurrences at five or six week intervals. The only designation that seems to the author to cover the condition is vegetative neurosis, probably epidemic.

115:1267-1292 (Aug. 20) 1953. **Partial Index**

•Chemotherapy in Tuberculosis. K. A. Jensen, K. Tørning, J. Haarhøj and I. Kiaer.—p. 1267.
Fibromatosis of Plantar Fascia. F. Bang and J. Ernst.—p. 1272.
Alloplastic Operation on Hip According to Judet and Pertrochanteric Osteosynthesis in Same Session. R. Movin.—p. 1277.

Chemotherapy in Tuberculosis.—The introduction of isoniazid marks an important advance in the treatment of tuberculosis, but tubercle bacilli rapidly become resistant to the agent when it is applied alone, and, further, there is danger of home treatment because treatment with isoniazid alone is so easily carried out. In order to prevent this valuable agent from becoming ineffective through misuse, Jensen and his associates emphasize that treatment of pulmonary tuberculosis with isoniazid alone is contraindicated except in the case of the few patients in whom the tubercle bacilli are in advance resistant to both streptomycin and *p*-aminosalicylic acid (PAS) and where treatment is required. A long-continued effect of streptomycin or isoniazid can be attained by the combination of each of the substances with *p*-aminosalicylic acid. Combined treatment with all three substances is considered the most effective chemotherapy in tuberculosis. In treatment of patients with tubercle bacilli resistant to streptomycin the combination of isoniazid and *p*-aminosalicylic acid may be recommended, but it must be borne in mind that in about one-fourth of the patients with cavernous pulmonary tuberculosis, tubercle bacilli resistant to isoniazid appear after three months' treatment.

Wiener klinische Wochenschrift, Vienna

65:825-840 (Sept. 25) 1953. **Partial Index**

•Treatment of Bechterew's Disease with Thorium X. P. Erlacher.—p. 825.
Formal and Causal Genesis of So-Called "Idiopathic" Aneurysm of Aortic Sinus (Sinus of Valsalva). L. Kucsko.—p. 826.
Problem of Surgical Treatment of Angina Pectoris. W. Weissel, M. Wenzl and G. Wense.—p. 831.

Treatment of Bechterew's Disease with Thorium X.—Thorium X, a radioactive isotope obtained from radiothorium, which gives off only alpha rays and has a half value period of 3.64 days, was used for the treatment of 10 men and 4 women with ankylopoietic spondylarthritis. Men predominated in a ratio of 3 to 1 in contrast to other reports with a ratio of 5 to 1. A buffered solution of 200 electrostatic units of thorium X was injected intravenously once a week for 10 to 12 weeks. Of the 14 patients, 4 became free of complaints, 5 were considerably improved, 1 was a therapeutic failure, and 4 have not been followed up long enough for evaluation of results. The increased erythrocyte sedimentation rate showed a definite tendency to approach normal and the thoracic expansion was increased by 2, 3, and 4 cm. A pain reaction was noted that first occurred in the area most recently involved by the disease and only later in the areas with foci of longer duration. These pains gradually subsided and finally disappeared completely. The patients were able to move more freely; one patient was able to put on his shoes by himself. These satisfactory results corresponded with those reported from the orthopedic clinic of the university in Münster, Germany, by Pitzen whose therapeutic prescriptions were closely followed by the author. Of 120 patients treated by Pitzen between 1948 and 1950, 80 were reexamined after one year; 60 were free of complaints, 18 were considerably improved and only 2 were therapeutic failures. The thoracic expansion was increased on the average from 2.37 cm. before the treatment to 4.35 after the treatment, with an occasional increase up to 8 cm. The treatment should be applied only to inpatients and blood cell counts should be taken regularly. A drop in leukocytes below 4,000 should be considered as a warning sign to reduce the dose of the thorium X.

Zeitschrift für klinische Medizin, Berlin

150:407-498 (No. 5) 1953. **Partial Index**

•Epinephrine Ketosis in Diabetes Mellitus. F. Müller.—p. 407.
Fragility of Erythrocyte and Vascular Diseases. E. Perlick and H. Lutz.—p. 421.
Diurnal Course of Respiratory Frequency. G. Hildebrandt.—p. 433.
Rhythmic Functional Order of Pulsation and Respiration. G. Hildebrandt.—p. 445.
Hyperinsulinism in Adenocarcinoma of Pancreas with Function of Metastases. O Bode and J. Probst.—p. 469.
Clinical Experiences with Triethylenemelamine (TEM) in Treatment of Tumor-Like Blood Diseases. H. E. Bock, E. Kirberger and U. Woelffer.—p. 482.

Epinephrine Ketosis in Diabetes Mellitus.—Müller shows that, whereas epinephrine tolerance tests have been used widely in the study of the carbohydrate metabolism, epinephrine so far has not been employed in testing fat and ketone metabolism. It has long been known that epinephrine reduces the fat content and increases the ketone bodies in the blood, however, with the customary dosage of 1 mg. of epinephrine, injected subcutaneously, ketosis generally does not become evident in the healthy nonfasting person, but it does become manifest whenever the person shows a tendency toward ketosis. It intensifies or makes evident fasting or exertion ketosis, exogenic ketosis resulting after the intake of large amounts of fat, and, of course, the metabolic ketosis of the diabetic patient. Fifty-seven epinephrine tests were made in 33 patients with diabetes mellitus. It was found that after the subcutaneous injection of 1 mg. of epinephrine the fat metabolism of the diabetic patient, even if his sugar metabolism is well adjusted, reacts generally with an increase in blood ketone bodies, but the ketone content generally does not exceed 5 mg. per 100 cc. of blood. Diabetic patients with a decided tendency toward the formation of acetone can be readily detected with the aid of this epinephrine test. Their ketone curves rise much higher, even when their "morning ketone" was normal and their metabolism well adjusted, and the prompt reduction to normal values in four or five hours is lacking. Epinephrine-induced ketosis may prove valuable also in adjusting diabetic patients to a suitable management. However, the epinephrine test cannot be used for the detection of endocrine variants and for differentiating mild and severe forms of diabetes mellitus. It could be demonstrated that glycogenolysis in the liver and ketogenesis are not necessarily interconnected metabolic processes and that the earlier concepts of a retarded fat metabolism, which does not participate in acute combustion processes, can no longer be accepted. It seemed probable that epinephrine first inhibits the combustion of glucose and of ketone bodies in the periphery, and only after the epinephrine effect has been equalized by counter regulation, does intensified combustion begin on an elevated metabolic level.

BOOK REVIEWS

Synopsis of Medical Parasitology. By V. E. Brown, Ph.D., Assistant Professor of Biology, Marquette University, Milwaukee. Paper. $3.50. Pp. 109, with 103 illustrations. V. E. Brown, 512 N. 13th Street, Milwaukee, 1953.

This book is perhaps the first of its kind to be published. It can best be described as a reference manual for the laboratory identification of parasites found in human beings. The subject matter is divided into 31 chapters according to the particular genus, species, or form of each parasite. Each chapter includes a brief discussion of the specified phase of the subject, a list of pertinent references, and a series of drawings to illustrate the morphology of the parasite and its life cycle. The illustrations constitute the most important feature of the book and consist of uncolored reproductions from structurally precise scale drawings showing the microscopic anatomy of the various cyclic forms as they are known to occur in man, vector, and intermediate or definitive host. The external appearance of certain insects or animals involved as vectors, intermediates, or hosts is also illustrated. The illustrations of parasites are carefully labeled and accompanied by a key to the identity of all important anatomic features. The author intends the publication for students who cannot afford and find it inconvenient to use the large number of texts on the subject that should be consulted in the laboratory. From that standpoint, the book will be useful as a teaching supplement to lectures and textbooks on the subject. A general index included at the end increases the usefulness of the manual as a reference. Some of the entries refer to names that are not listed in the text. This is likely to be confusing to beginners.

This publication will be useful as a supplement to other sources of instruction, chiefly from the point of view of laboratory diagnosis.

Plant Proteins in Child Feeding. By R. F. A. Dean. Medical Research Council special report series no. 279. Paper. $2.25; 10s. Pp. 163, with illustrations. British Information Service, 30 Rockefeller Plaza, New York 20; Her Majesty's Stationery Office, P. O. Box 569, London, S.E.1, 1953.

In many parts of the world it is difficult or impossible to obtain sufficient milk for the feeding of infants and children. Therefore, the development of foods that could be prepared from indigenous raw materials is of great practical value. During the years 1946 to 1949, Prof. R. A. McCance of the University of Cambridge headed a Medical Research Council team studying undernutrition in Germany. Dr. Dean, a member of this group, investigated the value of mixtures of plants as additions to children's diets. His findings are reported in this book, which is divided into two parts. The first reviews the problems in the use of plant proteins for human nutrition, and the second gives the actual data obtained in Dr. Dean's studies and his recommendations for future work.

The children, who were living in orphanages, varied in age from 6 months to 11 years and were fed basic diets containing little animal protein for periods of 8 to 24 weeks. These were supplemented with cow's milk or mixtures of cereal and soya. It was found that a large portion of the children's diets could consist of the cereal and soya mixture with no adverse effect on growth. In the meals of children below the age of one year, about half the total amount of milk could be replaced with the plant proteins. The replacement of almost all of the milk with plant proteins could be accomplished with the older children, although for optimum growth a small amount of milk seemed to be necessary. Dr. Dean concludes that it may ultimately be possible to provide mixtures of foods, derived entirely from plant sources, that would equal milk in nutritive value. Pediatricians and others who are concerned with the feeding of infants and children in areas where milk is not readily available will find this publication valuable. Other physicians and students interested in nutrition in general can glean much from the discussion of the use of proteins of plant origin in the human diet.

Die Nahbestrahlung. Von Henri Chaoul und Felix Wachsmann, Dozent für medizinische Physik an der Universität Erlangen. *Second edition.* Cloth. 39 marks. Pp. 225, with 304 illustrations. Georg Thieme, Diemershaldenstrasse 47, (14a) Stuttgart-O; American agent, Grune & Stratton, Inc., 381 Fourth Ave., New York 16, 1953.

This book offers a complete and up-to-date description of the techniques used in applying soft roentgen radiation to superficial or to surgically exposed lesions (plesio-roentgentherapy, contact roentgentherapy, and low-voltage near-distance therapy). Well illustrated with photographs of apparatus and cases, it contains much valuable quantitative information in the form of tables and diagrams. Radium and the radium-substitutes recently provided by the uranium pile are excluded from the discussion except for purposes of comparison. The text is well written, the printing excellent, and the extensive bibliography includes Italian, French, English, German, and American work. The use of such abbreviations as FHA and GHWT is annoying. In some places their meaning is evident from the context, but in others it is not; often the reader could be saved time and effort by a single entry in the index leading to the passage where the abbreviation is explained or first used. Aside from this and a few small errors in the bibliography, the book deserves high praise. It will probably prove to be a classic in its field.

Vegetative Konstitutionstherapie. Von Otto Hauswirth, Facharzt für physikalische Medizin in Wien. Cloth. $5.45. Pp. 298, with 23 illustrations. Springer-Verlag, Mölkerbastei 5, Wien 1, 1953.

Conceived as a pioneer work to explore the relation of constitution to therapy, this book begins with some undeniable anatomic facts about the autonomic nervous system, moves on to the shaky ground of human typology, and then attempts to explain practically everything in pathology, pharmacodynamics, and physical therapy in terms of vagotonia and sympathicotonia. The effects of various antibiotics are explained by their assumed effects on the nerves (pages 146 to 150). Sunlight (page 256) is stated to cause a discharge of electrons from the skin by the familiar process of photoelectric emission, so that the vagus loses its charge and lets the sympathetic nerves get the upper hand; hence one need only ask a patient whether he tolerates sunlight, for if he does he is a vagotonic. There are no indications that the author appreciates the importance of contratests or understands statistical methods; his ideas are based on a diligent but uncritical exegesis of about 700 items of medical literature listed in his bibliography. This book, which is not recommended, makes one wish for a "new deal" in medical literature.

The Conquest of Plague: A Study of the Evolution of Epidemiology. By L. Fabian Hirst, M.D. With foreword by Lieut.-General Sir William Macarthur, K.C.B., M.D., F.R.C.P. Cloth. $11. Pp. 478, with 26 illustrations. Oxford University Press, 114 Fifth Avenue, New York 11; Amen House, Warwick Sq., London, E.C.4, 1953.

This book is not a history of plague epidemics or a systematic textbook. It begins with a brief account of traditional beliefs about the cause of plague, then traces the main source of human infection to the ubiquity of rats and fleas. It ends by showing how recent advances in our knowledge of rats and their parasites has led to the conquest of this deadly disease. The author, who has had long experience with this disease in the Middle and Far East, has written in a lucid style that should attract lay persons as well as physicians. The book is comprehensive and contains an adequate bibliography at the end of each of its four parts. Four appendixes give technical information considered too detailed for the main text. There is an author index and a subject index.

These book reviews have been prepared by competent authorities but do not represent the opinions of any official bodies unless specifically so stated.

Hunted Heretic: The Life and Death of Michael Servetus, 1511-1553. By Roland H. Bainton. Cloth. $3.75. Pp. 270, with illustrations. Beacon Press, 25 Beacon St., Boston 8, 1953.

This is a biography of the 16th century scholar, Servetus, who, like his contemporaries of the Renaissance, was thirsty to conquer all fields of knowledge. He was a distinguished student of the Bible, a theologian, geographer, physician, physiologist, and a master of ancient languages. Although such a combination is very rare today, it must be remembered that in those days theology, philosophy, physiology, and psychology were not compartmentalized but were all a part of advanced learning. As a result, the practice of medicine appears to have been but one of several sidelines for Servetus. The author points out that Servetus discovered that the blood circulates through the lungs, a fact that Galen had not understood, but most of the book is devoted to a discussion of the religious controversies that finally led to Servetus' being burned as a heretic. The author states that Servetus "was never quite sure whether he was talking the language of physiology or religion and, for that reason, he has become difficult to comprehend in an age of secularization of science. For [him] there was only an enhancement of natural processes in ascending from respiration to inspiration, generation to regeneration, from sight to insight, from birth to new birth of the spirit." In another passage the author makes the profound observation that "two religions can exist side by side amicably only if they think they can." This book will appeal to those who like to browse in history. At the end there is a chronology, a bibliography, annotations, and an index.

The Physics of Radiation Therapy. By Harold Elford Johns, M.A., Ph.D., F.R.S.C., Professor of Physics, University of Saskatchewan, Saskatoon, Canada. Publication number 116, American Lecture Series, monograph in Bannerstone Division of American Lectures in Radiation Therapy, edited by Milton Friedman, M.D., Associate Professor of Radiology, New York University Post-Graduate Medical School, New York. Cloth. $8.50. Pp. 286, with illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad Street, Oxford, England; Ryerson Press, 299 Queen Street, W., Toronto 2B, 1953.

The author's purpose is to explain, for students and physicians, the physical principles basic to an understanding of radiotherapy. The first chapter on the nature of matter and of radiation is followed by six chapters on roentgen rays, one on energy absorption, two on radium, one on high energy devices such as the betatron, and one on artificial radioactivity with emphasis on the therapeutic use of materials like cobalt 60 that emit gamma rays. Two appendixes supply a wealth of precise technical information in the form of tables and diagrams. There are many good illustrations, a subject index, and an author index, and the book as a whole is legible and attractive. It can be recommended both as an introduction for students and as a reference work for specialists using ionizing radiations therapeutically.

History of the Second World War: United Kingdom Medical Series. Editor-in-Chief: Sir Arthur S. MacNalty, K.C.B., M.D., F.R.C.P. The Emergency Medical Services. Volume II: Scotland, Northern Ireland and the Principal Air Raids on Industrial Centres in Great Britain. Edited by Lieut. Colonel C. L. Dunn, C.I.E., I.M.S. Cloth. 50s. Pp. 492, with 40 plates. Her Majesty's Stationery Office, P. O. Box 569, London, S.E.1, 1953.

Volume 2 of this historical series is in three parts. Parts 1 and 2 show that the emergency medical services adopted in Scotland and Northern Ireland followed a pattern similar to those that proved their worth in England and Wales. The latter were briefly mentioned in a review of volume 1 published previously in The Journal (Aug. 15, 1953). Great encouragement is to be derived from reading these two volumes, as they show the remarkable adaptability possible during wartime in a highly complex society crowded together in large cities. Scotland was subjected to a greater number of air attacks than is generally known, and some of them were severe. There were very few enemy air attacks in Northern Ireland except for Belfast, but, during one of the four raids on that city, more persons were killed in about six hours than in any day raid in England made outside of the London area. Part 3 of this volume gives a representative picture of the various emergency medical services in action under the strain of heavy air attacks by the enemy; it also includes accounts of some of the "Baedeker" raids in 1942, when the enemy began heavy attacks on the cathedral cities of Exeter, Bath, Norwich, York, and Canterbury. Hitler threatened to ruin every cathedral city mentioned in "Baedeker." In this section of the volume it is said that the emergency medical services functioned most efficiently. Civil defense workers will be interested not only in the effectiveness of the Emergency Medical Services but also in some of the mistakes made. For example, on page 459 in the account of the raids on Belfast, it is said that in the larger raids, the mistake made by the control center was the calling of excessive resources from outside areas. At one time more than 120 first aid parties and ambulances were in a most vulnerable area in the center of the city. Most of the country parties called into the city had nothing to do. It was a mistake to put first aid posts in the "externs of hospitals." The result was that, during the raids, the externs became filled with the wounded, the dying, and the dead, and the actual work for which the first aid post was intended could not be carried out efficiently. The number of casualties from air raids in the London area from September, 1939, to June, 1942, is tabulated on page 210. The total number killed is given as 20,102, the injured (detained in hospitals) as 26,054, and the slightly injured as 47,046. These figures are only approximate because after heavy raids many fatalities were not discovered for days and others had to be eventually recorded as missing, presumed dead. There were also hundreds of fragments of human remains from which it was not possible to make any identification.

While this volume was prepared under the direction of an editorial board appointed by his Majesty's Government, the authors and the editors alone are responsible, it is said, for the opinions expressed. Just where this responsibility lies is a little difficult to determine because of the numbers who took part in preparing this volume. On the jacket and the flyleaf it is said to have been edited by C. L. Dunn. On a following page are the names of many who served on the editorial board, the chairman of which was Sir Cyril Flower. On another page are the names of those who served on the editorial committee, of which Sir Arthur S. MacNalty was chairman.

May's Manual of the Diseases of the Eye for Students and General Practitioners. Edited by Charles A. Perera, M.D., Associate Clinical Professor, College of Physicians and Surgeons, Columbia University, New York. Twenty-first edition. Cloth. $6. Pp. 512, with 378 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2, 1953.

Adhering to the original purpose, the author has given us a simple, lucid, and concise text for medical students and general practitioners. He has revised each chapter and has added some new color plates. Future editions should omit some of the more obsolete forms of treatment such as the use of the copper sulfate stick in the treatment of trachoma. Each chapter has a short description of the normal anatomy and physiology of the conditions described. Nothing that is still of a controversial nature or in a semi-experimental stage has been included. The book should continue to be very popular, especially with medical students.

Elementary Pathological Histology. By W. G. Barnard, F.R.C.P., Professor of Pathology, University of London, St. Thomas's Hospital Medical School, London. Third edition. Cloth. 17s.6d. Pp. 77, with 185 illustrations. H. K. Lewis & Co., Ltd., 136 Gower St., London, W.C.1, 1953.

No major changes are made in the revision of this guide for students beginning elementary general pathology. Accordingly, concepts expressed in previous editions are continued despite recent changes in generally accepted viewpoints. The material illustrates the histology of the three principal pathological processes: inflammation, degeneration (retrogressive changes), and tumors. The treatment is general, in the belief that, from this understanding, the histology of special pathological lesions can be understood. The photomicrographs are average in quality, and the drawings are good. It is doubtful that the book will be used to any extent by beginning students of pathology in this country.

QUERIES AND MINOR NOTES

TRANSFUSION REACTIONS

To the Editor:—*Regarding the use of isotonic and dilute sodium chloride solutions in starting blood transfusions, is it hazardous to use 5% dextrose in distilled water for this purpose? Is it safer to use saline solution with or without 5% dextrose for this purpose?*

T. F. Brinton, M.D., Eugene, Ore.

Answer.—It is inadvisable to administer dextrose solutions with citrated whole blood. De Gowin, Hardin, and Alsever (Blood Transfusion, Philadelphia, W. B. Saunders Company, 1949, p. 278) have called attention to the danger of extravascular hemolysis resulting from the mixture of stored blood and dextrose solutions. Although the clumping that occurs in a mixture of dextrose solution and citrated whole blood is reversible, Wilson (*Am. J. Clin. Path.* 20:667, 1950) has reported a transfusion reaction traceable to this phenomenon. Dreyfus and Salmon (*Presse méd.* 60:845, 1952) have also pointed out the danger of clumping and of increased fragility of red blood cells exposed to dextrose solutions. They have presented results of in vitro and in vivo studies to support their conclusion that the practice of giving simultaneous infusions of dextrose solutions and whole blood should be abandoned.

SENSATION OF BURNING IN ESOPHAGUS AFTER GASTRECTOMY

To the Editor:—*A patient who had a total gastrectomy for carcinoma a year ago with excellent results has suffered ever since with a constant burning throughout the esophagus. He is at work, feels well, and does not gain weight. Can you suggest an explanation for this symptom?*

M.D., California.

Answer.—Sensations of burning in the esophagus following total gastrectomy are often due to the regurgitation of bile and duodenal secretions into the lower esophagus and even occasionally into the pharynx. This regurgitation is most likely to occur when the lower end of the esophagus has been anastomosed to the side of the first part of the jejunum without an accompanying enteroenteric anastomosis lower down. The disagreeable symptoms usually disappear in time and are relieved somewhat if the patient sleeps with the head and shoulders somewhat elevated. The oral administration of bismuth preparations or of aluminum hydroxide gel (Amphojel) sometimes gives marked relief.

DUPUYTREN'S CONTRACTURE

To the Editor:—*I should like to know the present concepts regarding the causes of Dupuytren's contracture and regarding the role of working conditions as an aggravating factor. What supportive therapy is of value? Is corrective surgery advisable and at what stage? Is it advisable for such men to continue to work, considering work as a natural physiotherapeutic exercise?*

P. Guiraud, M.D., New York.

Answer.—The cause of Dupuytren's contraction is still a matter of uncertainty. There is no evidence that hard and vigorous use of the hand either causes or aggravates the condition. More than half the patients in carefully recorded series were men who did little work that involved active use of the hands. There is no medical treatment of value. The one certain method of correcting the condition is carefully performed, wide excision of the contracted fascia. The operation should be done if the overlying skin is becoming involved to such an extent that removal of the skin and subsequent skin grafting would be necessary to secure a good result or if a finger is being drawn down into the palm and the thickening and contraction of the fascia is producing a flexion contracture. Early operation in the absence of skin involvement and beginning contracture does not seem advisable, because similar development may occur in some other part of the hand, and a second operation may be required at a later date.

WILMS' TUMOR IN INFANT

To the Editor:—*An 8½-month-old white girl has undergone surgery for the removal of a Wilms' tumor (nephroblastoma) on the left side. Despite its removal, hypertension ranging from 200 to 250 mm. Hg systolic and 100 to 140 mm. Hg diastolic persists one week after surgery. The child has received sedation, has been given abdominal radiation on two occasions, and is on a low salt diet. She does not appear to be in acute distress. Her respirations and pulse rate are only slightly elevated. There is no mechanical error in recording the pressures, and other causes of hypertension have been "ruled out." In view of the relative asymptomatology, should attempts be made to bring the infant's tension down by the use of hydralazine (Apresoline) hydrochloride and related drugs? Should prophylactic digitalization be instituted in view of possible myocardial failure? What would be the approximate maintenance schedule if adrenolytic drugs were tried?*

Louis E. Imperiale, M.D., Brooklyn, N. Y.

Answer.—Wilms' tumor and hypertension have been associated in occasional patients. Pressure produced by involved lymph nodes about the renal pedicle may interfere with arterial blood supply and cause nephrogenic hypertension. The elevation of blood pressure associated with Wilms' tumor has not, however, been so great as that described in the query. Cerebral metastasis may cause great elevation of blood pressure associated with increase of intracranial pressure. Hypotensive drugs should be used cautiously. It is not likely that digitalization would help. Ganglionic blocking or adrenolytic drugs, if used, should be administered parenterally in minute doses at first and then in larger increments until an effect is evident. This would determine the initial maintenance requirement. Subsequent rise of blood pressure might necessitate larger doses after days or weeks of treatment.

RETINITIS PROLIFERANS

To the Editor:—*A man, aged 20, has had diabetes mellitus since the age of 3½. He has been growing progressively "blind" since October, 1952. He was seen by a prominent ophthalmologist, who told him that nothing could be done for him. His diabetes is controlled by 20 units of regular insulin three times daily. He is well developed and is 6 ft. (182.88 cm.) tall. Can you advise anything that may arrest the condition?*

Max D. Goldman, M.D., Brooklyn.

Answer.—The history of this patient suggests that retinitis proliferans has developed, which is the main ocular complication of diabetes in the young. In all patients with retinopathy, lack of control of the diabetes precedes the development of the ocular signs. Prophylaxis by adequate control of the diabetes with prevention of this complication is the only effective method of treatment. Unfortunately once the retinopathy has developed, there is no proved therapy of value. Through the years many remedies have been proposed and then discarded. Recently it has been suggested that vitamin B_{12} might be of value, together with x-ray therapy to combat the neovascularization of the retinitis proliferans. Testosterone propionate has been suggested, as have rutin and vitamin C, but their use is falling into discard.

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically so stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

THYROIDECTOMY

To the Editor:—*Is thyroidectomy indicated in the following case? A 30-year-old white woman is married and has three children. Her father and a niece have tuberculosis. On Jan. 9, 1953, while receiving an injection for varicose veins, she complained of nervousness and palpitation. Her basal metabolic rate was +26%. She was given strong iodine (Lugol's) solution for two weeks. Thyroidectomy was considered. The thyroid gland was barely palpable, and the rest of the physical examination revealed no pertinent abnormalities. X-ray examination, blood count, and urinalysis also revealed no abnormalities. On Jan. 30, 1953, her basal metabolic rate was +40. Her blood pressure was 125/80 mm. Hg, the pulse rate 132, and weight 112 lb. The patient is sensitive to smoking cigarettes; her pulse before smoking is 82 and after smoking 144, with little change in blood pressure. When she stopped smoking the nervousness and palpitation ceased and she felt fine. On March 18 the metabolic rate while she was under sedation with thiopental (Pentothal) was +4. On May 5 diagnostic currettage was done for profuse menstrual bleeding. On May 8 the metabolic rate was +38 and she was placed on propylthiouracil therapy, 300 mg. daily. On July 8 the metabolic rate was +24 and she weighed 114 lb. She felt well and had no symptoms. The blood pressure was 120/75 mm. Hg and the pulse 84. The patient has a definite dread of the procedure for determining the basal metabolic rate.*

Carl B. Adams, M.D., Adams, N. Y.

Answer.—The clinical history and the objective findings in this patient do not reveal much conclusive evidence for hyperthyroidism. Little importance can be attached to the basal metabolic rate determination in a patient who is as excitable and resistant to the basal metabolism procedure as this one appears to be. Furthermore, it is clear that at times she feels well even when her basal metabolism is reported high. In many patients mild hyperthyroidism like this is well controlled by propylthiouracil and after a year of treatment will remain in remission indefinitely. Certainly unless a more definite diagnosis can be made, utilizing additional laboratory procedures such as determination of the cholesterol and protein-bound iodine levels and tracer determinations with radioactive iodine, there is no indication at this time for operation. Since many thyroids are removed unnecessarily in the treatment of symptoms suggesting, but not arising from, hyperthyroidism, it is important that there be strong objective evidence of hyperthyroidism before definitive treatment is given.

MULTIPLE MYELOMA

To the Editor:—*Is a total protein value in excess of 9 gm. per 100 cc. with more than 3 gm. of globulin indicative of multiple myeloma? Would a total protein level of 4.5 gm. per 100 cc., with 4.1 gm. of albumin and 0.4 gm. of globulin, necessitate cancellation of surgery (gallbladder)? Is determination of total protein a routine preoperative procedure? What are the chief laboratory diagnostic criteria in multiple myeloma?*

M.D., New York.

Answer.—It would be difficult to answer the first part of this question without knowing the exact value of the globulin. In multiple myeloma there is commonly a reversal of the albumin-globulin ratio, with a high globulin value while the albumin value remains within the limits of normal. Reversal of the albumin-globulin ratio with a high globulin level occurs in a number of other conditions and cannot be considered specific for myeloma. It is commonly seen in sarcoidosis, disseminated lupus erythematosus, and lymphogranuloma venereum, and it may occur in acute infections, blood dyscrasias such as leukemia, and kala-azar.

A total protein value of 4.5 gm. per 100 cc. with a globulin value of 0.4 gm. and an albumin value of 4.1 gm. is most unusual. It would be proper to question whether or not the method for protein determination was being properly carried out. While a globulin value of 0.4 gm. may be seen, one would expect to see with it a marked reduction in the albumin such as may occur in nephrosis. Determination of the total protein level is certainly not a preoperative procedure routinely. The chief laboratory diagnostic criterion in multiple myeloma is the examination of either sternal bone marrow or direct biopsy of the lesion with demonstration of myeloma cells.

TESTOSTERONE FOR OLDER MEN

To the Editor:—*What are the contraindications to the use of testosterone in small (10 mg.) daily doses? Are there any harmful results in the prolonged use in men when it seems to produce a sense of well-being and greater activity? Is this imaginary or real improvement? What daily dose is recommended?*

M.D., Arkansas.

Answer.—It is assumed that the question refers to the use of testosterone in daily doses of 10 mg. by mouth in older men. The only harmful effect definitely established is the production of breast enlargement in a small percentage of men who receive it. It should not be used if there are any findings to suggest the presence of carcinoma of the prostate; however, carcinoma of the prostate cannot be induced by the use of testosterone. If carcinoma is present, its growth may be accelerated by the use of testosterone. A sense of well-being and greater activity are commonly observed in older men who take it and are probably not imaginary. The presence of actual improvement can be determined in many individual cases only by careful study.

CHLOROPHENOTHANE (DDT) IN WATER SUPPLY

To the Editor:—*Is it an accepted procedure to add chlorophenothane (DDT) to the water supply of a city? The water comes from springs in mountainous country and is collected in reservoirs. The proposed dosage of chlorophenothane is 10 gm. per cubic meter in biweekly intervals. What kind of parasites or pathogenic organisms would be eliminated? Would the domestic use of this water give rise to untoward reactions. Would the chlorophenothane content of used, stagnating water be sufficiently high to prevent development of Anopheles or Aedes aegypti mosquitoes? Is there any simple method of eliminating the chlorophenothane from the drinking water in private households?* *M.D., Haiti.*

Answer.—Treatment of an entire water supply of a community with chlorophenothane is not a recognized public health procedure. When mosquito control operations are in effect and it is necessary to kill mosquito larvae, it may be necessary to treat the surrounding edges of a water reservoir, particularly when vegetation or aquatic growth is present. This type of limited treatment has been effectively carried out using 0.05 to 0.1 lb. (24 to 48 gm.) of chlorophenothane per acre or by using about 6 gal. (24 liters) of no. 2 diesel oil per acre with a spreading agent.

Anopheline larvae will be found breeding in open type reservoirs and impounded water areas, but Aedes aegpti breed in artificial containers such as bottles, tin cans, flower vases, tanks, and cisterns. If the water supply is in cisterns, control may be obtained by applying a 1% residual chlorophenothane spray on the walls or linings of the cistern or applying a pyrethrum larvicide to the water surface.

The proposed dosage of 10 gm. per cubic meter of chlorophenothane is about 10 ppm. It is generally recommended that a concentration of 1 ppm in a drinking water supply will control Anopheles quadrimaculatus larvae. This concentration is not considered detrimental to the health of man. It is highly improbable that this insecticide will eliminate any parasite or pathogenic organism. It is felt that use of an activated carbon filter would remove much of the taste of fuel oil, chlorophenothane, or other foreign matter from the water supply. Additional technical information and guidance can be secured from the Communicable Disease Center, U. S. Public Health Service, 50 7th St., Atlanta, Ga.

JOURNALS ABSTRACTED IN THE CURRENT MEDICAL LITERATURE DEPARTMENT, SEPTEMBER-DECEMBER 1953

Titles have been listed or abstracts made of important articles in the following journals in the Current Medical Literature Department of THE JOURNAL during the past four months. Any of the journals, except those starred, will be lent by THE JOURNAL to individual subscribers in Continental United States and Canada and to members of the American Medical Association and its student organization. No charge is made to members, but the fee for other borrowers is 15 cents in stamps for each periodical. Three journals may be borrowed at a time for a period not exceeding five days. Requests should be addressed to the Library of the American Medical Association. Thus most of these journals are accessible to the general practitioner.

*A. M. A. American Journal of Diseases of Children. Chicago.
*A. M. A. Archives of Dermatology and Syphilology. Chicago.
*A. M. A. Archives of Industrial Hygiene and Occupational Medicine. Chicago.
*A. M. A. Archives of Internal Medicine. Chicago.
*A. M. A. Archives of Neurology and Psychiatry. Chicago.
*A. M. A. Archives of Ophthalmology. Chicago.
*A. M. A. Archives of Otolaryngology. Chicago.
*A. M. A. Archives of Pathology. Chicago.
*A. M. A. Archives of Surgery. Chicago.
Acta chirurgica belgica. Brussels.
Acta chirurgica scandinavica. Stockholm.
Acta clinica belgica. Brussels.
Acta medica scandinavica. Stockholm.
Acta neurologica et psychiatrica belgica. Brussels.
Acta paediatrica. Stockholm.
American Heart Journal. St. Louis.
American Journal of Clinical Pathology. Baltimore.
American Journal of Digestive Diseases. Fort Wayne, Ind.
American Journal of Human Genetics. Baltimore.
American Journal of Hygiene. Baltimore.
American Journal of the Medical Sciences. Philadelphia.
American Journal of Medicine. New York.
American Journal of Obstetrics and Gynecology. St. Louis.
American Journal of Occupational Therapy. Milwaukee.
American Journal of Ophthalmology. Chicago.
American Journal of Orthopsychiatry. New York.
American Journal of Pathology. Ann Arbor, Mich.
American Journal of Physiology. Washington.
American Journal of Psychiatry. New York.
American Journal of Psychotherapy. New York.
American Journal of Public Health. New York.
American Journal of Roentgenol. and Radium Therapy. Springfield, Ill.
American Journal of Surgery. New York.
American Journal of Syphilis, Gonor. and Venereal Diseases. St. Louis.
American Journal of Tropical Medicine and Hygiene. Baltimore.
American Practitioner and Digest of Treatment. Philadelphia.
American Review of Tuberculosis. New York.
American Surgeon. Atlanta, Ga.
Anales de la Facultad de medicina de Montevideo. Montevideo.
Anesthesiology. New York.
Angiology. Baltimore.
Annals of Allergy. Minneapolis.
Annals of Internal Medicine. Lancaster, Pa.
Annals of Otology, Rhinology and Laryngology. St. Louis.
Annals of the Rheumatic Diseases. London.
Annals of Surgery. Philadelphia.
Antibiotics and Chemotherapy. Washington, D. C.
Archiv für Kinderheilkunde. Stuttgart.
Archiv für klinische Chirurgie. Berlin.
Archives of Disease in Childhood. London.
Archives of Physical Medicine and Rehabilitation. Chicago.
Archivio italiano di chirurgia. Bologna.
Archivos del Instituto de cardiología de México. Mexico, D. F.
Archivos de oftalmología. Buenos Aires.
Archivum chirurgicum neerlandicum. Arnhem.
Arizona Medicine. Phoenix.
Arquivos de neuro-psiquiatria. São Paulo.
Ärztliche Wochenschrift. Berlin.
Australasian Annals of Medicine. Sydney.
Australian Journal of Experimental Biology and Medical Science. Adelaide.
Australian and New Zealand Journal of Surgery. Sydney.
Bacteriological Reviews. Baltimore.
Beiträge zur klinischen Chirurgie. Munich.
Blood. New York.
Boletín de la Asociación médica de Puerto Rico. San Juan.
Boletín médico del Hospital infantil. Mexico, D. F.
Brain. London.
British Heart Journal. London.
British Journal of Cancer. London.
British Journal of Dermatology. London.
British Journal of Experimental Pathology. London.
British Journal of Industrial Medicine. London.
British Journal of Ophthalmology. London.
British Journal of Physical Medicine. London.
British Journal of Plastic Surgery. Edinburgh.
British Journal of Radiology. London.
British Journal of Surgery. Bristol.
British Journal of Tuberculosis. London.
British Journal of Urology. London.
British Medical Journal. London.
Bruxelles-médical. Brussels.
Bulletin of the Johns Hopkins Hospital. Baltimore.
Bulletin of the Los Angeles Neurological Society. Los Angeles.
Bulletin of the World Health Organization. Geneva.
California Medicine. San Francisco.
Canadian Journal of Medical Sciences. Ottawa.
Canadian Journal of Public Health. Toronto.
Canadian Medical Association Journal. Montreal.
Cancer. Philadelphia.
Cancer Research. Chicago.
Chinese Medical Journal. Peking.
Chirurg. Berlin.
Cincinnati Journal of Medicine.
Circulation. New York.
Circulation Research. New York.
Clinica. Bologna.
Clinica terapeutica. Rome.
Clinical Science. London.
Connecticut State Medical Journal. Hartford.
Cuore e circolazione. Rome.
Delaware State Medical Journal. Wilmington.
Deutsche medizinische Wochenschrift. Stuttgart.
Diabetes. New York.
Die Medizinische. Stuttgart.
Diseases of Chest. Chicago.
Documenta de medicina geographica et tropica. Amsterdam.
East Africa Medical Journal. Nairobi.
Edinburgh Medical Journal. Edinburgh.
Endocrinology. Springfield, Ill.
Fertility and Sterility. Philadelphia.
Folia cardiologica. Milan.
Fortschritte auf dem Gebiete der Röntgenstrahlen vereinigt mit Röntgenpraxis. Stuttgart.
Gastroenterology. Baltimore.
Gazeta médica portuguesa. Lisbon.
Gazzetta medica italiana. Milan.
Geriatrics. Minneapolis.
Giornale di clinica medica. Parma.
Glasgow Medical Journal. Glasgow.
GP (Journal of American Academy of General Practice). Kansas City, Mo.
Harefuah. Jerusalem-Tel Aviv.
Hawaii Medical Journal. Honolulu.
Hoja tisiológica. Montevideo.
Illinois Medical Journal. Chicago.
Industrial Medicine and Surgery. Chicago.
Irish Journal of Medical Science. Dublin.
Journal of Allergy. St. Louis.
Journal of the American Pharmaceutical Association. Washington, D. C.
Journal of Applied Physiology. Washington, D. C.
Journal of Arkansas Medical Society. Fort Smith.
Journal of Aviation Medicine. St. Paul.
Journal of Bacteriology. Baltimore.
Journal of Bone and Joint Surgery. Boston and London.
Journal of Clinical Endocrinology and Metabolism. Springfield, Ill.
Journal of Clinical Investigation. New York.
Journal of Clinical Nutrition. Allentown, Pa.
Journal of Clinical Pathology. London.
Journal of Endocrinology. London.
Journal of Experimental Medicine. New York.
Journal of the Florida Medical Association. Jacksonville.
Journal of Forensic Medicine. Cape Town.
Journal of Gerontology. St. Louis.
Journal of Hygiene. London.
Journal of Immunology. Baltimore.
Journal of the Indian Medical Association. Calcutta.
Journal of the Indiana State Medical Association. Indianapolis.
Journal of Infectious Diseases. Chicago.
Journal of International College of Surgeons. Chicago.
Journal of Investigative Dermatology. Baltimore.
Journal of the Iowa State Medical Society. Des Moines.
Journal of the Irish Medical Association. Dublin.
Journal of the Kansas Medical Society. Topeka.
Journal of the Kentucky State Medical Association. Bowling Green.
Journal of Laboratory and Clinical Medicine. St. Louis.

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* Cannot be lent.

Journal of Laryngology and Otology. London.
Journal of the Maine Medical Association. Portland.
Journal de médecine de Lyon. Lyon.
Journal of the Medical Association of the State of Alabama. Montgomery.
Journal of the Medical Association of Georgia. Atlanta.
Journal of the Medical Society of New Jersey. Trenton.
Journal of Mental Science. London.
Journal of the Michigan State Medical Society. Lansing.
Journal of National Cancer Institute. Washington, D. C.
Journal of the National Medical Association. New York.
Journal of Nervous and Mental Disease. New York.
Journal of Neurology, Neurosurgery and Psychiatry. London.
Journal of Neuropathology and Experimental Neurology. Baltimore.
Journal of Neurophysiology. Springfield, Ill.
Journal of Neurosurgery. Springfield, Ill.
Journal of Nutrition. Philadelphia.
Journal of Obstetrics and Gynaecology of the British Empire. Manchester.
Journal of the Oklahoma State Medical Association. Oklahoma City.
Journal of Pathology and Bacteriology. Edinburgh.
Journal of Pediatrics. St. Louis.
Journal of Pharmacology and Experimental Therapeutics. Baltimore.
Journal of the Philippine Medical Association. Manila.
Journal of Physiology. Cambridge.
Journal of the South Carolina Medical Association. Florence.
*Journal of the Student American Medical Association. Chicago.
Journal of the Tennessee State Medical Association. Nashville.
Journal of Thoracic Surgery. St. Louis.
Journal of Tropical Medicine and Hygiene. London.
Journal of Urology. Baltimore.
Journal-Lancet. Minneapolis.
Klinische Monatsblätter für Augenheilkunde. Stuttgart.
Laboratory Investigation. Philadelphia.
Lancet. London.
Laryngoscope. St. Louis.
Louisiana State Medical Society Journal. New Orleans.
Maandschrift voor kindergeneeskunde. Leyden.
Maryland State Medical Journal. Baltimore.
Medical Annals of the District of Columbia. Washington.
Medical Journal of Australia. Sydney.
Medicina. Buenos Aires.
Medicine. Baltimore.
Mental Hygiene. Albany, N. Y.
Metabolism. New York.
Military Surgeon. Washington, D. C.
Minerva chirurgica. Turin.
Minerva ginecologica. Turin.
Minerva medica. Turin.
Minerva pediatrica. Turin.
Minnesota Medicine. St. Paul.
Missouri Medicine. St. Louis.
Münchener medizinische Wochenschrift. Munich.
Nebraska State Medical Journal. Lincoln.
Nederlandsch tijdschrift voor geneeskunde. Amsterdam.
Neurology. Minneapolis.
New England Journal of Medicine. Boston.
New Jersey Medical Society Journal. Trenton.
New York State Journal of Medicine. New York.
New Zealand Medical Journal. Wellington.
Nordisk medicin. Stockholm.
North Carolina Medical Journal. Winston-Salem.
Northwest Medicine. Seattle.
Ohio State Medical Journal. Columbus.
Oral Surgery, Oral Medicine and Oral Pathology. St. Louis.
Pediatría. Naples.
Pediatrics. Springfield, Ill.
Pédiatrie. Lyon.
Pennsylvania Medical Journal. Harrisburg.
Physiological Reviews. Baltimore.
Plastic & Reconstructive Surgery. Baltimore.
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The letters used to explain in which department the matter indexed appears are as follows: "BI," Bureau of Investigation; "E," Editorial; "C," Correspondence; "ab," abstracts; the asterisk (*) indicates an original article in THE JOURNAL.

This is a subject index and one should, therefore, look for the subject word, with the following exceptions: "Book Notices," "Deaths," "Medicolegal Abstracts" and "Societies" are indexed under these titles at the end of the letters "B," "D," "M," and "S." Matter pertaining to the Association is indexed under "American Medical Association." The name of the author, in brackets, follows the subject entry.

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Am.—American
A.—Association
Coll.—College
Commn.—Commission
Comm.—Committee
Conf.—Conference
Cong.—Congress
Dist.—District
Div.—Division
Found.—Foundation
Hosp.—Hospital
Indust.—Industrial
Inst.—Institute
Internat.—International
M.—Medical
Med.—Medicine
Nat.—National
Pharm.—Pharmaceutical
Phys.—Physicians
Soc.—Society
Surg.—Surgery
Surgs.—Surgeons
S.—Surgical

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